

**CONVECTION OVEN
WELLS MODELS WITH TOUCHPAD TEMPERATURE CONTROLLER/TIMERS
M4200-3, M4200-3S**

This equipment chapter is to be inserted in the Oven section of the *Equipment Manual*.



**MANUFACTURED EXCLUSIVELY FOR
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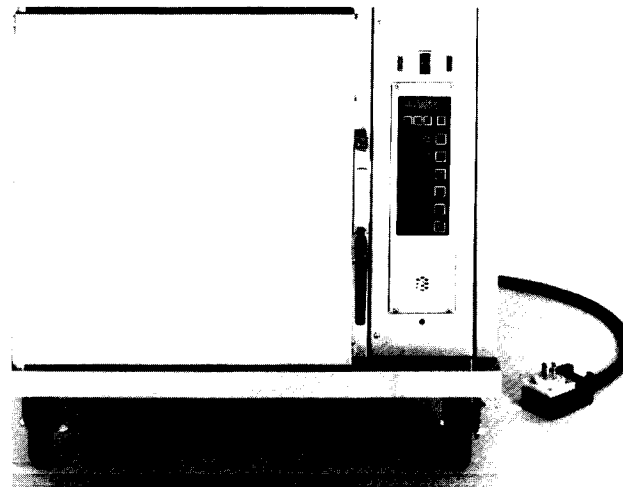
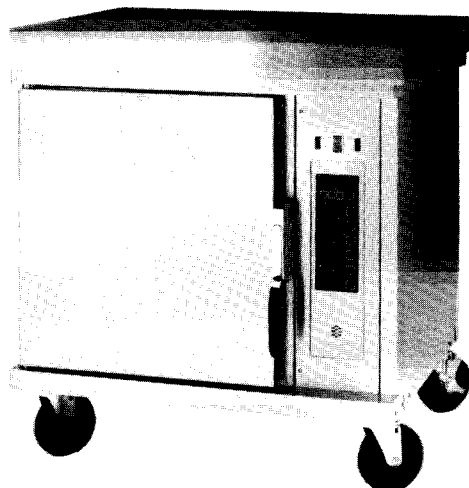


TABLE OF CONTENTS	Page 1
WARRANTY	Page 2
INTRODUCTION SAFETY	Page 2
PARTS IDENTIFICATION/FUNCTION/PHOTOS	Page 3
HARDWARE IDENTIFICATION	Page 15
EQUIPMENT SET UP AND CLOSE PROCEDURES	Page 16
TROUBLESHOOTING	Page 19
ORDERING/SERVICE INFORMATION	Page 20
NON-SCHEDULED MAINTENANCE	Page 20
WIRING PICTORIAL/WIRING DIAGRAM	Page 31
WARRANTY STATEMENT	Page 32

The M4200-3 and M4200-3S Convection Ovens manufactured by Wells Manufacturing are warranted to be free from defects in materials and workmanship for a period of one year from the date of original installation and is for the benefit of the original purchaser only, **BUT NOT AGAINST DAMAGE CAUSED BY ABUSE, FAULTY INSTALLATION, INCLUDING IMPROPER ELECTRICAL CURRENT. THIS WARRANTY IS THE COMPLETE AND ONLY WARRANTY, THERE BEING NO OTHER WARRANTY, EXPRESSED OR IMPLIED IN LAW OR IN FACT, INCLUDING BUT NOT LIMITED TO, WARRANTIES OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE, AND/OR FOR DIRECT, INDIRECT, OR CONSEQUENTIAL DAMAGES IN CONNECTION WITH WELLS PRODUCTS.**

Wells' obligation under this warranty is limited to the repair of defects or replacement without charge by a **WELLS** factory authorized service agency or one of its sub-service agencies. This service will be provided on customer's request. Please contact the Service Department: Wells Manufacturing Company, P.O. Box 280, Verdi, Nevada, 89439; to arrange service or additional information and other details concerning the product and/or this warranty.

CONVECTION OVEN



Model M4200-3S

PRODUCT FEATURES

- Six-channel built-in timer.
- Solid-state temperature controller with on-demand digital temperature display maintains accurate temperature.
- Stainless steel interior and exterior for durability and easy cleaning.
- Refrigerator-type door handle.
- Three fully adjustable shelves.
- Reversible door.

ACCESSORIES

21342 Oven stacking kit
21330 Caster kit
21445 Oven prep top

DIMENSIONS

MODEL	INSTALLED				SHIPPING WEIGHT
	DIMENSIONS			WEIGHT	
	W	D	H		
M4200-3S	30"	25 1/2"	25"	204 lbs.	232 lbs.

ELECTRICAL INFORMATION Voltage: 208V OR 240V, three phase. Power: 208V: 7.5 KW, 21.8 amps per line maximum. 204V: 8.4 KW, 21.2 amps per line maximum.

Oven is provided with a low profile pin-and-sleeve plug (L43-30P9).

PRODUCT FINISH

Stainless steel top, front, sides and back.

PRODUCT WARRANTY

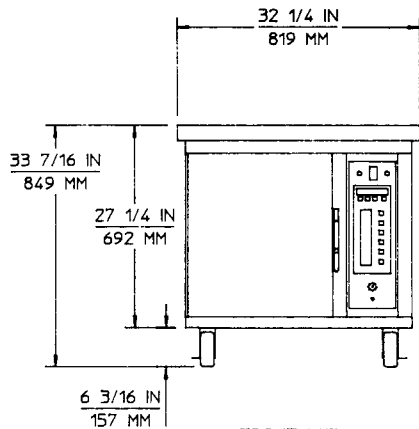
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THIS WARRANTY IS THE COMPLETE AND ONLY WARRANTY, THERE BEING NO OTHER WARRANTIES, EXPRESSED OR IMPLIED IN LAW OR IN FACT, INCLUDING BUT NOT LIMITED TO, WARRANTIES OF MERCHANT-ABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE, AND/OR FOR DIRECT, INDIRECT, OR INCONSEQUENTIAL DAMAGES IN CONNECTION WITH WELLS' PRODUCTS.

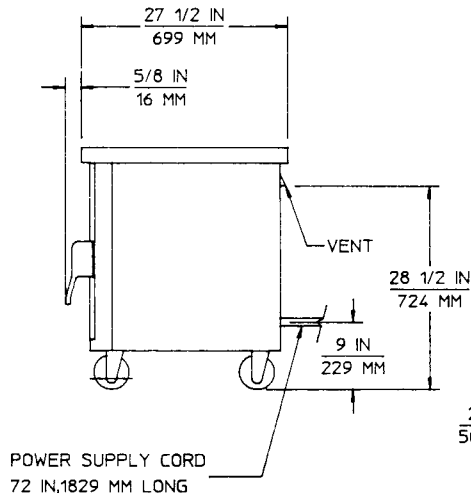
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CONVECTION OVEN

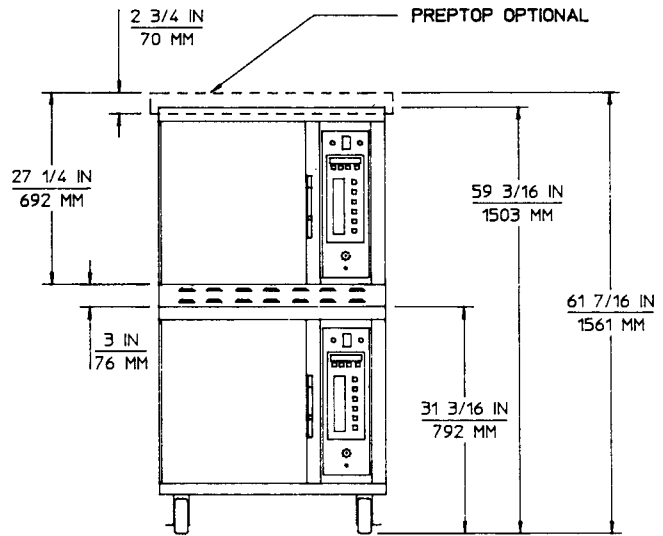
Model M4200-3S



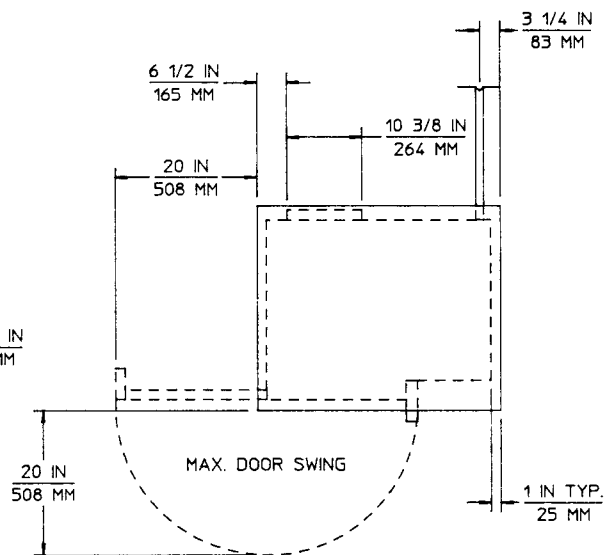
FRONT VIEW
M4200-3



SIDE VIEW
M4200-3



STACKED VIEW
M4200-3S



TOP VIEW
M4200-3

ELECTRICAL SPECIFICATIONS:

	VOLTS	KW	AMPS PER LINE THREE PHASE			NEMA PLUG CONFIGURATION
			L1	L2	L3	
M-4200-3	208	7.5	20.8	21.8	21.8	L430P9
	240	8.4	20.2	21.2	21.2	
M4200-3S	208	7.5	20.8	21.8	21.8	
	240	8.4	20.2	21.2	21.2	

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INTRODUCTION

These commercial Convection Oven Models M4200-3 and M4200-3S are designed to bake food products uniformly and economically. They incorporate state-of-the-art, solid-state electronic controls for controlling the cooking temperature and time. The M4200-3 and M4200-3S are 7.5 KW ovens. The M4200-3S is the stackable model of the oven.

SAFETY

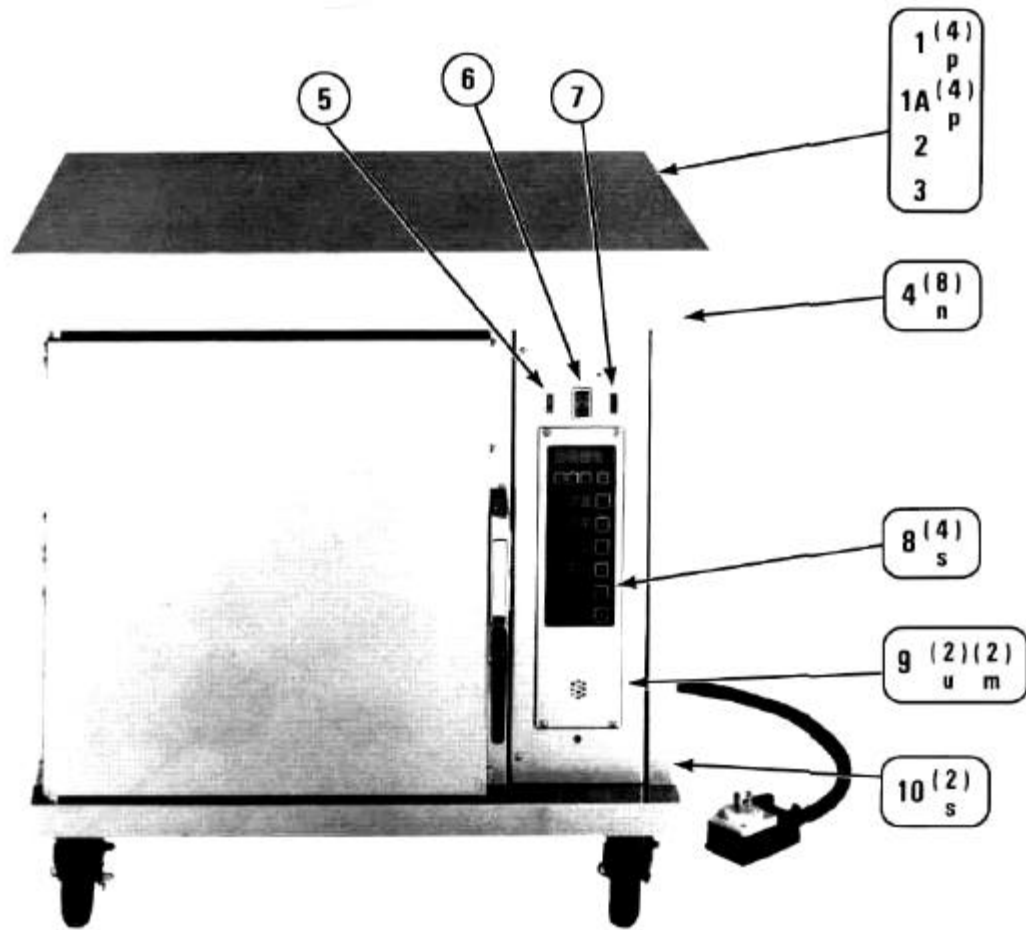
Knowledge of proper installation, operation and maintenance procedures is essential to ensure safe operation of any equipment. The instructions contained herein are meant as guidelines:

- Always have dry hands prior to turning the ON/OFF/FAN switch ON or OFF or FAN.
- Turn OFF the ON/OFF/FAN switch anytime the oven is not in use.
- If an electrical shock is felt when touching the oven, disconnect the power immediately and call Wells Service Department for assistance and service.
- Have the electrical power receptacle installed by a licensed electrician. Make sure that the

equipment is properly grounded.

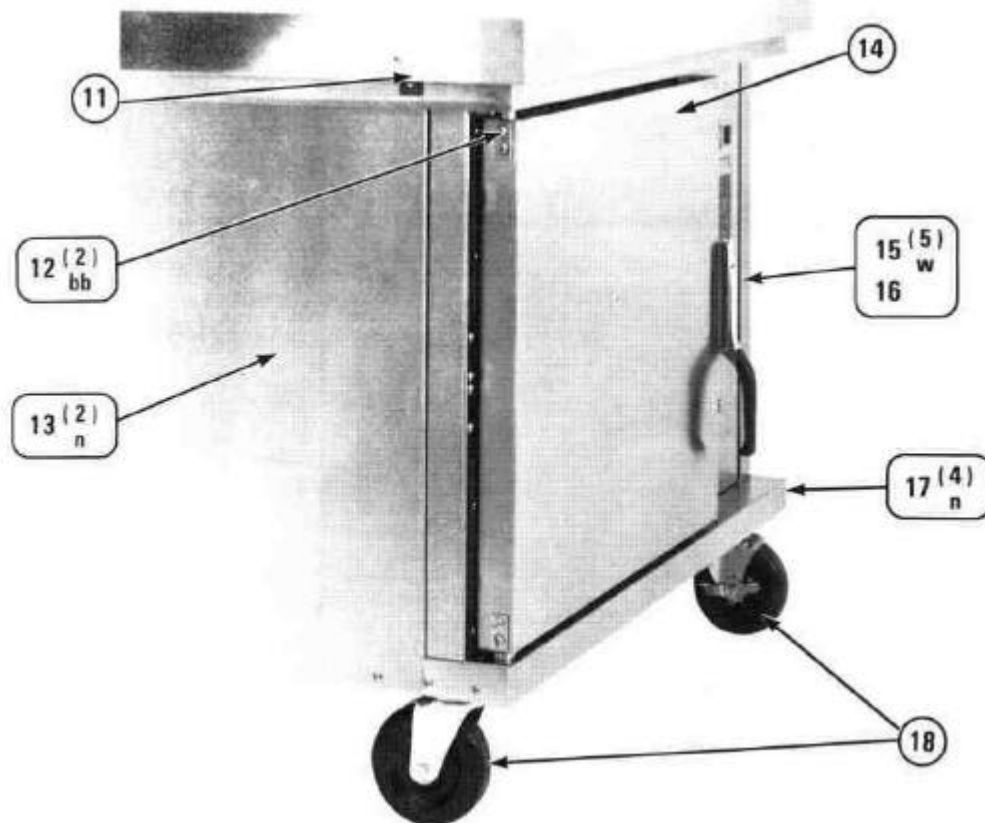
- If you find that the power cord is frayed, do not plug it into the power receptacle. If it is already plugged in, disconnect the plug after shutting OFF the circuit breaker.
- DISCONNECT THE POWER CORD BEFORE ATTEMPTING ANY REPAIRS AND/OR CLEANING THE OVEN.
- Allow the unit to cool before cleaning.
- DO NOT SPLASH WATER ON OR INTO THE OVEN. WET ELECTRICAL COMPONENTS AND WIRING PRESENT A HIGH SHOCK HAZARD.
- Do not operate the unit unless all 4 casters are installed or the oven has been properly stacked on top of another oven.

Hazard Communication Standard (HCS) — Procedure(s) in this equipment manual include the use of chemical products. These chemical products will be highlighted with bold face letters followed by the abbreviation (HCS) in the text of the manual. See the Hazard Communication Standard (HCS) Manual for the appropriate Material Safety Data Sheet(s) (MSDS).



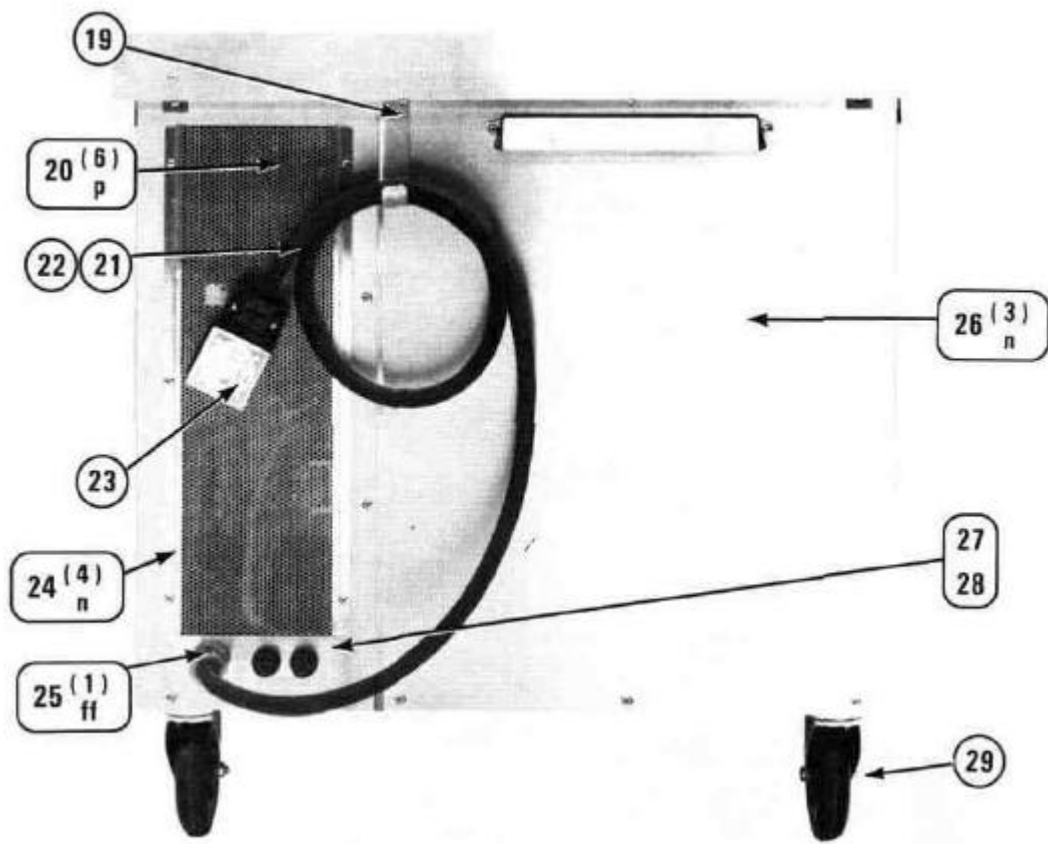
ITEM	PART NO.	DESCRIPTION	QTY.	FUNCTION
1	21445	Prep-top Assembly	1	Pre-assembled parts no. 1A, 2, 3.
1A	63952	Prep-top (TOP)	1	Provides working surface.
*2	63953	Prep-top insulation	2	Thermal Barrier for the prep-top.
*3	63950	Prep-top (Bottom) Cover	1	Protects prep-top insulation.
4	63788	Oven top	1	Covers and protects top insulation.
5	65145	Heat ON Light (amber)	1	Indicates oven is heating.
6	63918	ON/OFF/FAN Switch	1	Turns the electrical power ON, OFF, or FAN only.
7	65146	Power ON Light (red)	1	Indicates power is ON.
8	64964	Oven controller	1	Controls oven. Sets, adjusts and programs oven cooking time and temperature.
9	65138	Control Panel	1	Used to mount electrical components.
10	63801	Right Front Corner Trim	1	Covers oven frame.

*Not Shown



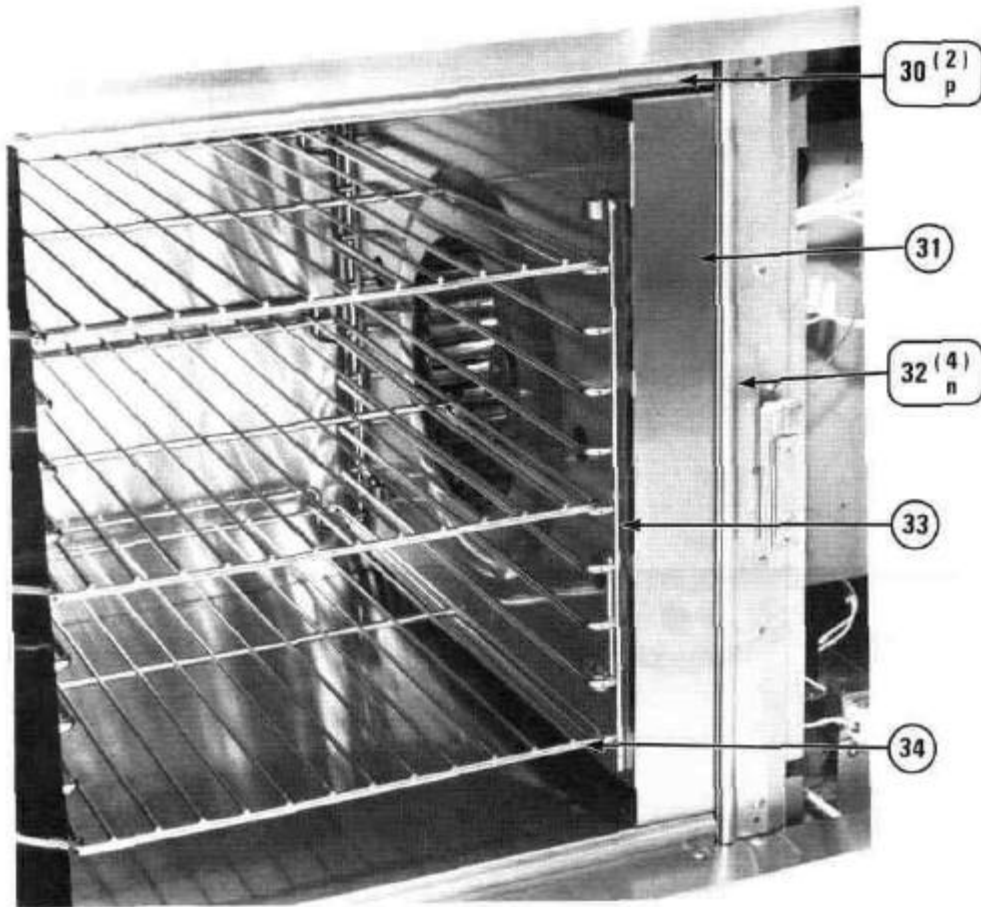
ITEM	PART NO.	DESCRIPTION	QTY.	FUNCTION
11	63828	Prep-top mounting bracket (not on M4200-3S)	4	Brackets securing prep-top to the oven.
12	63913	Door Pin Cover	2	Allows access to the door hinge pin.
13	63790	Side panel (left & right)	2	Covers and protects oven sides.
14	65156	Door Assembly	1	Covers and provides access to oven cavity.
15	63946	Door Handle and Latch Assembly	1	Provides access to the oven cavity and secures the door closed.
*16	63945	Door Striker Spacer	1	Provides correct positioning for the door handle assembly.
17	63804	Lower Front Trim	1	Provides access to the bottom door adjustment and the door ajar sensor.
18	21372	Front Casters with Brake (not on M4200-3S)	2	Allows oven to be moved about and secures it in place when stationary.

*Not Shown

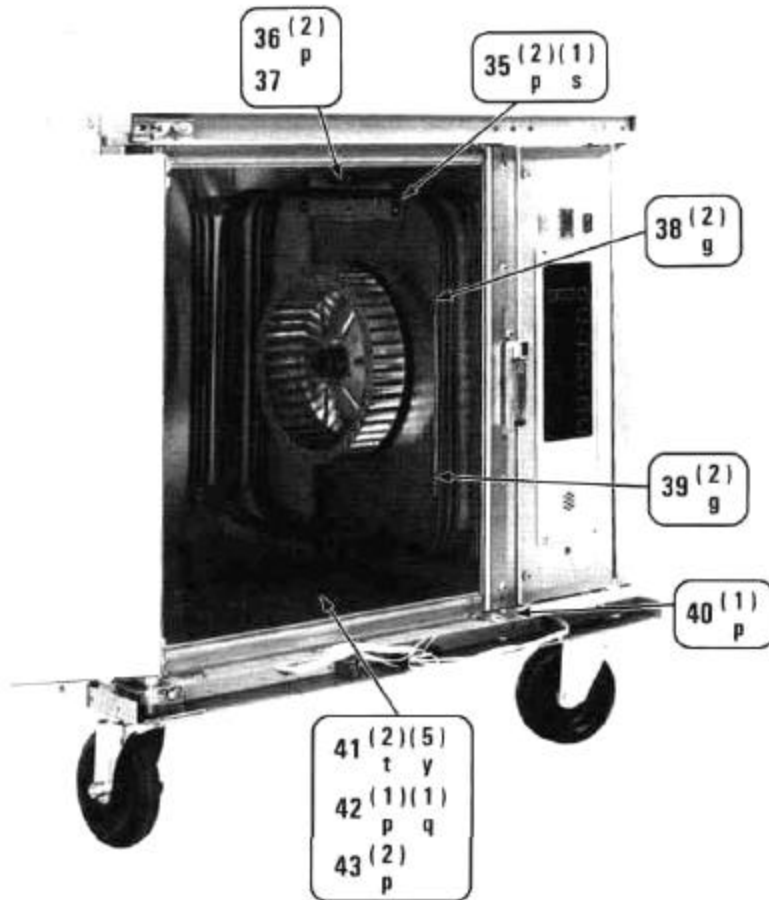


ITEM	PART NO.	DESCRIPTION	QTY.	FUNCTION
19	63827	Cord Hanger	1	Bracket for Power Cord storage.
20	63766	Rear Access Cover	1	Allows access to main power supply connection and high voltage components.
21	21486	Power Cord Assembly	1	Pre-assembled parts no. 22, 23, 25.
22	56324	Power Cord 10/4, Type 50	1	Transfers electric power to the unit.
23	65501	Plug LP-430P9	1	Connects oven to the electrical power supply.
24	65583	Right Rear Panel	1	Covers high voltage components from the rear.
25	65502	Cord Strain Relief	1	Secures the power supply cord to the oven.
26	65173	Rear Left Panel	1	Covers wrap insulation and frame.
27	54769	Fuse holders	2	Secures fuse 10A x 300V.
*28	54768	Fuse 10A x 300V	2	Over-current protection; device for the solid state controls and the motor.
29	21373	Rear casters (no brake) (not on M4200-3S)	2	Allows the oven to be moved about.

*Not Shown

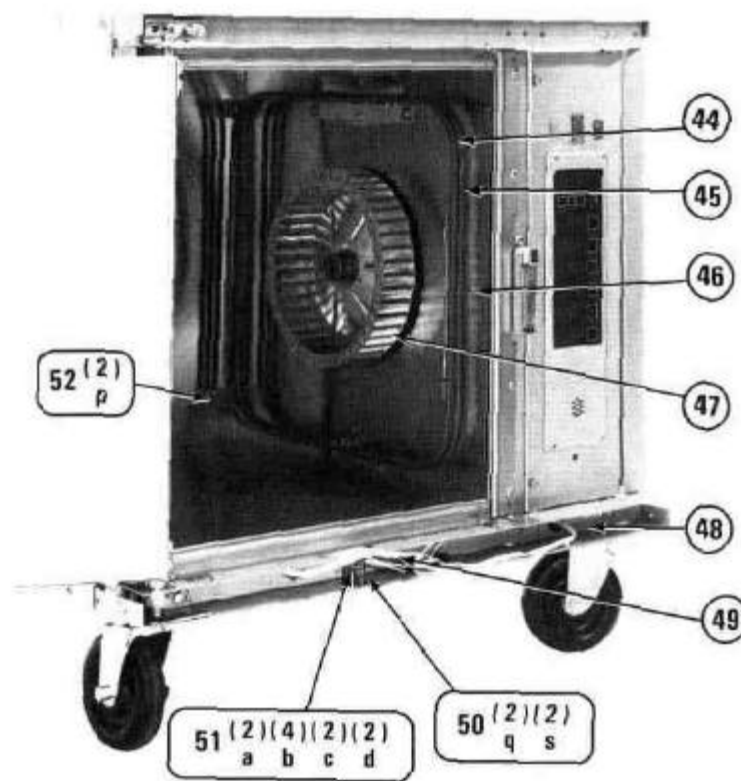


ITEM	PART NO.	DESCRIPTION	QTY.	FUNCTION
30	63817	Top and Bottom Door Gasket	2	Seal to retain the interior oven environment.
31	64504	Interior Air Baffle	1	Uniformly dispenses heated air throughout the oven.
32	63820	Side Door Gasket	2	Seal to retain the interior oven environment.
33	21375	Oven Rack Supports	2	Supports oven racks.
34	21376	Oven Rack	3	Supports product pans.

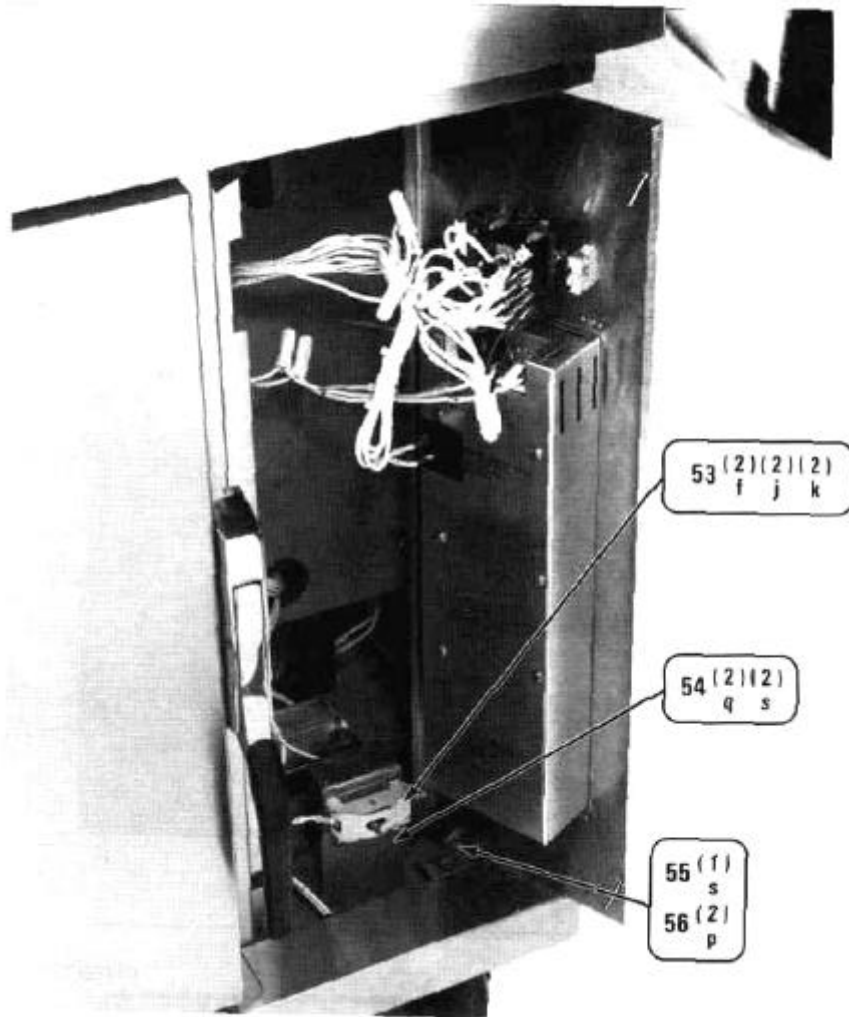


ITEM	PART NO.	DESCRIPTION	QTY.	FUNCTION
35	63829	Heating Element Bracket	6	Holds the heating elements to the inner cavity.
36	63836	Inner Heat Gasket Cover	1	Protects and secures the heating element gasket.
*37	63834	Heating Element Gasket	2	Element thermal seal to retain the inner cavity environment.
38	63881	High-Limit Top Clip	1	Secures the high-limit thermostat bulb in place.
39	63883	High-Limit Bottom Clip	1	Secures the high-limit thermostat bulb in place.
40	63903	Blank Hinge Cover	1	Covers the unused hinge hole for left to right door option.
41	63759	Cavity Assembly	1	Provides the interior surface of the oven.
*42	65015	Rear Cavity Support	2	Supports cavity.
*43	63889	Rack Support Clip	4	Supports the oven rack support.

*Not Shown

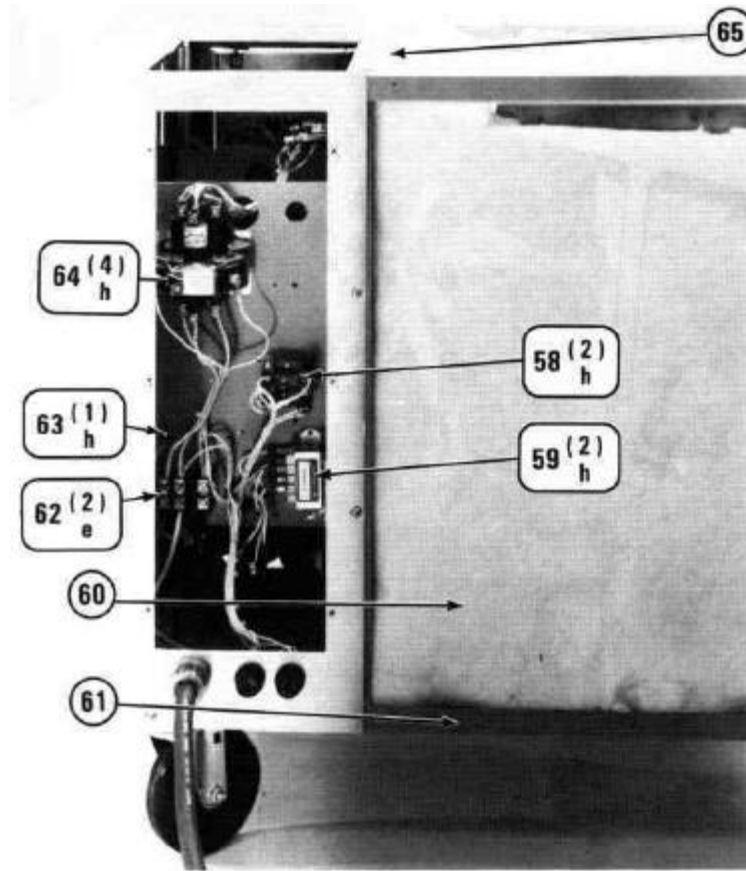


ITEM	PART NO.	DESCRIPTION	QTY.	FUNCTION
44	63873	Outer Heating Element (208 Volt Oven)	1	Heats the oven cavity interior and air.
	63949	(240 Volt Oven)	1	
45	63866	Center Heating Element (208 Volt Oven)	1	Heats the oven cavity interior and air.
	63800	(240 Volt Oven)	1	
46	63872	Inner Heating Element (208 Volt Oven)	1	Heats the oven cavity interior and air.
	63783	(240 Volt Oven)	1	
47	63797	Blower Wheel	1	Circulates heated air throughout the oven cavity.
48	51040	Bushing	1	Protects electrical wiring to the door ajar switch.
49	65647	Ajar Switch Shield	1	Protects the switch from interior oven heat.
50	63787	Reed Switch Bracket	1	Supports the door ajar sensor.
51	65239	Door Ajar Switch	1	Sensor for door ajar.
52	63876	Baffle Support Assembly (Rear)	2	Supports the interior baffle.

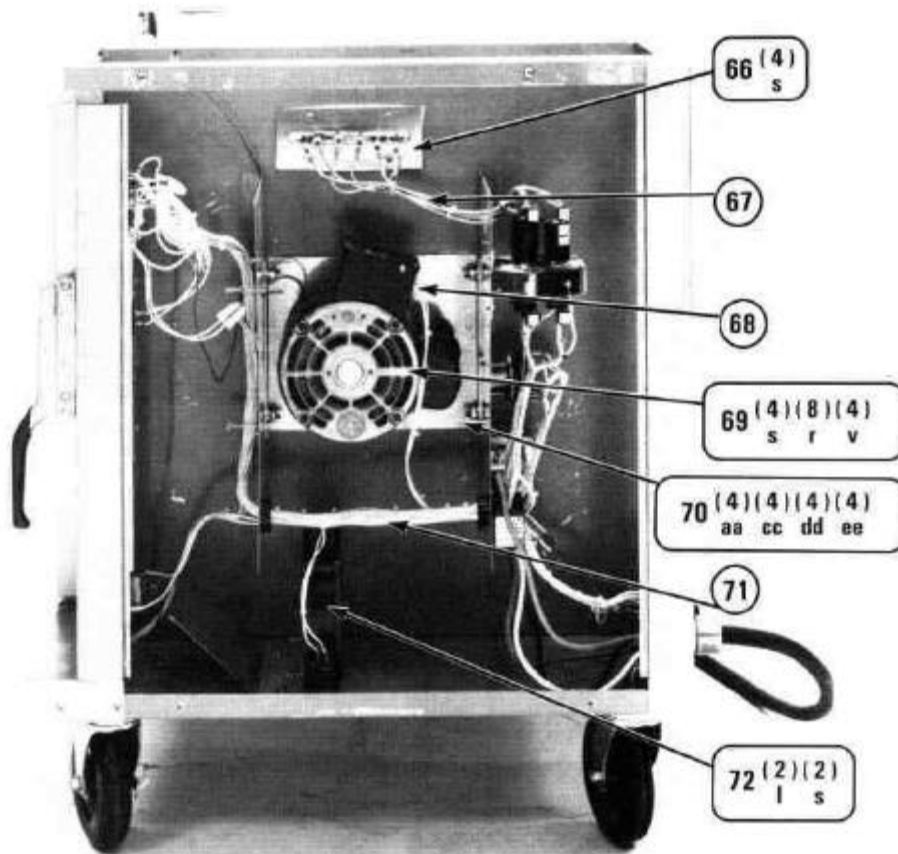


ITEM	PART NO.	DESCRIPTION	QTY.	FUNCTION
53	65211	High-Limit Thermostat	1	Safety device which prevents excessive oven temperatures.
54	63840	High-Limit Bracket	1	Supports the high-limit thermostat.
55	63898	Control Panel Hinge Bracket Assembly	2	Provides pivot shaft to the control panel.
56	63897	Angle Frame Pin Hinge	2	Secures the control panel to the oven and allows it to pivot open.
*57	63907	Wire Harness Stand-Off	1	Secures wire harness at the front of the unit.

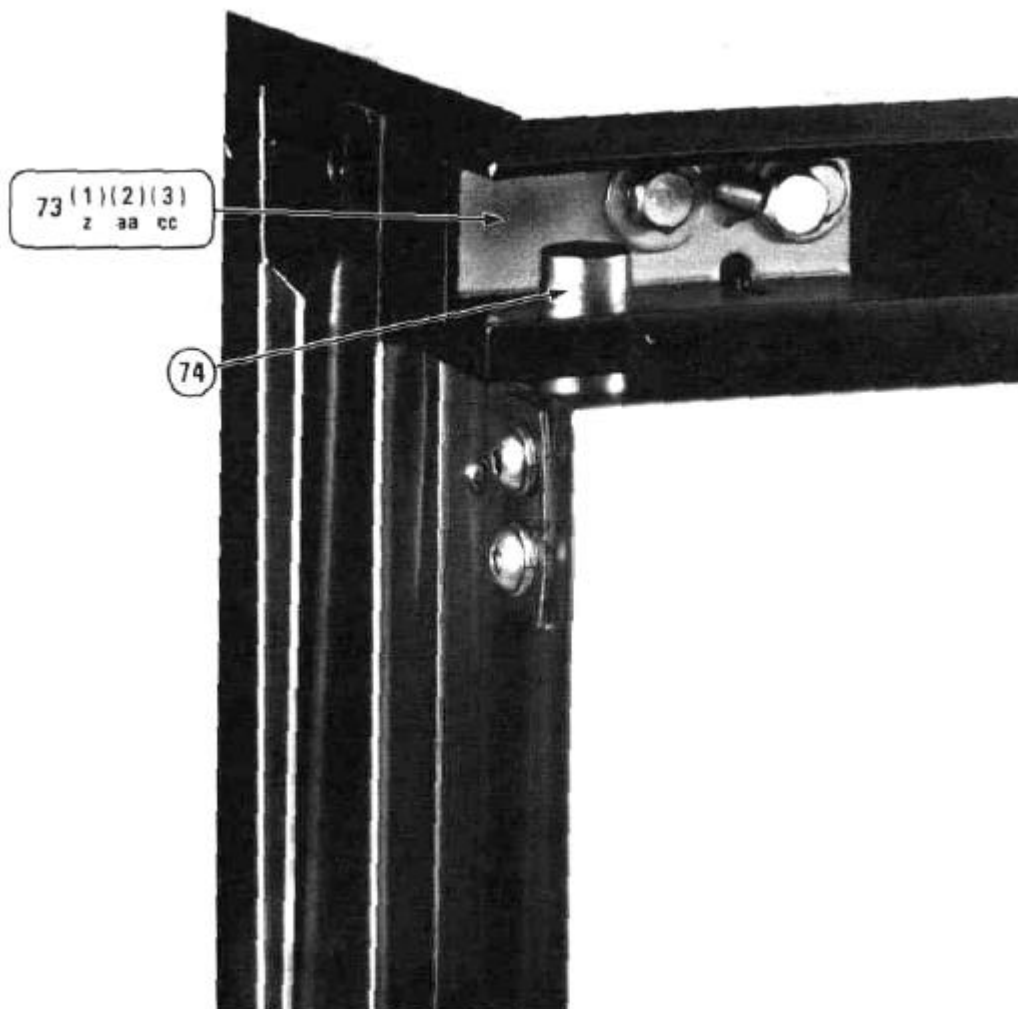
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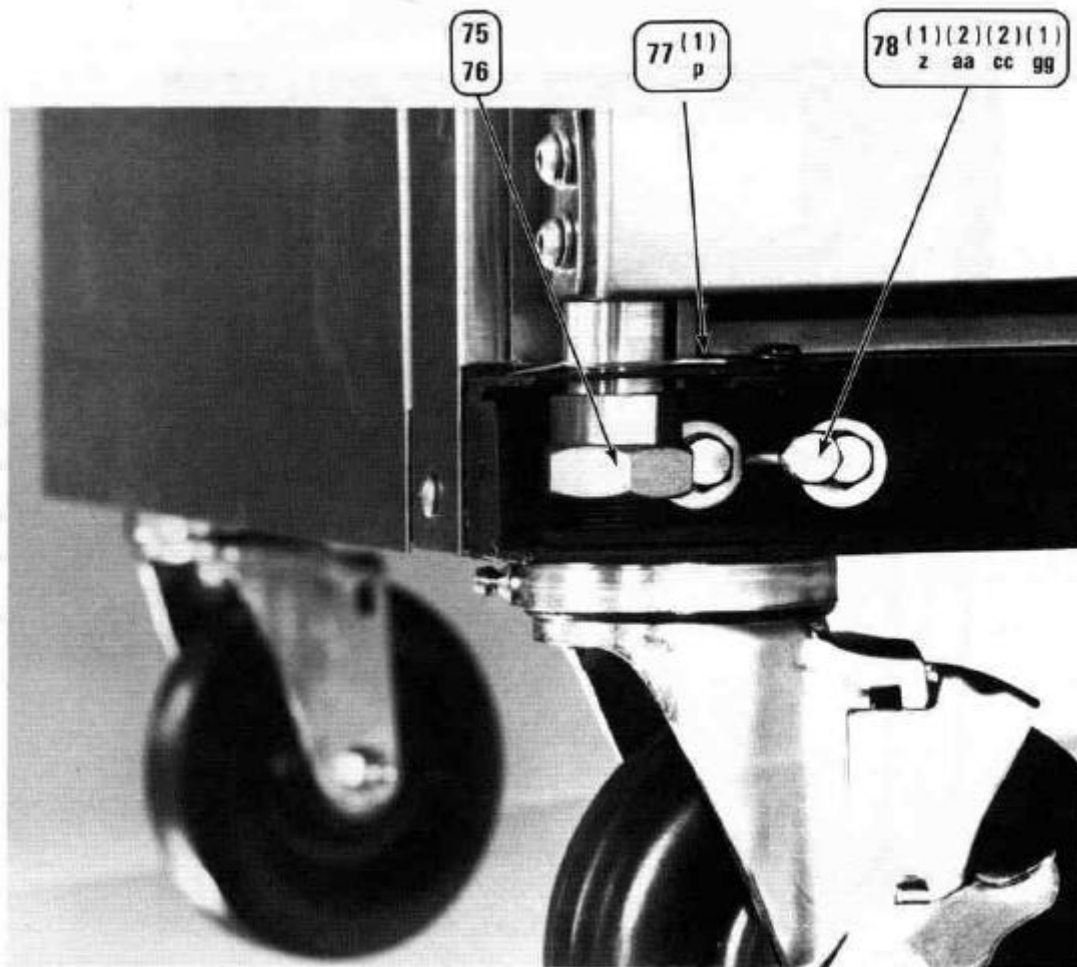
ITEM	PART NO.	DESCRIPTION	QTY.	FUNCTION
58	63880	Relay	1	Turns the fan and heat OFF when the door is ajar.
59	63929	Transformer	1	Provides low voltage power to the electronic controls.
60	63849	Insulation Cavity Wrap	1	Thermal barrier for interior cavity.
61	63755	Frame Assembly	1	Substructure of oven.
62	57465	Power Terminal Block	1	Connection block for the main power supply to the unit.
63	61439	Ground Connection Lug	1	Connection for the external unit ground from the main power supply.
64	63920	Mercury Power Relay	1	Transfers electrical power to the heating element.
65	63843	Bottom and Top Cavity Insulation (Bottom Not Shown)	2	Thermal barrier for interior top and bottom cavity.



ITEM	PART NO.	DESCRIPTION	QTY.	FUNCTION
66	63837	Outer Heater Gasket Cover	1	Protects and secures the heating element gasket in place.
67	64957	7.5 KW Heater Harness (M4200-3 and -3S)	1	Transfers electrical power to the heating elements.
68	51040	Bushing	1	Protects wiring to the motor,
69	63932	Fan Motor 208/240V 1/4 H.P., 1800 RPM	1	Rotates air movement fan.
70	63811	Motor Mount	1	Used to hold motor in position.
71	65166	Main Wire Harness	1	Provides electrical connection to control components.
72	64687	Cooling Fan	1	Used to cool down electrical components.

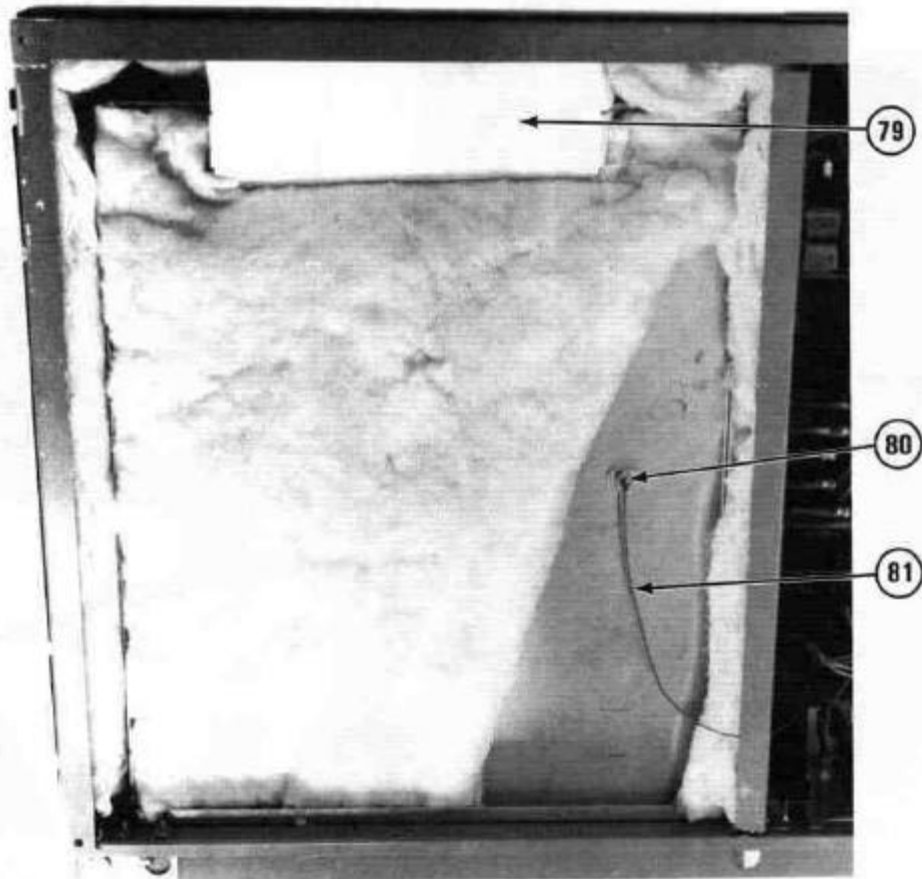


ITEM	PART NO.	DESCRIPTION	QTY.	FUNCTION
73	63860	Door Top Hinge Bracket	1	Attaches the door to the oven and is used for door adjustment.
74	63887	Door Top Hinge Pin	1	Holds the door to the upper hinge bracket.



ITEM	PART NO.	DESCRIPTION	QTY.	FUNCTION
*75	63912	Bottom Door Hinge Pin	1	Holds the door to the bottom hinge bracket assembly.
76	63900	Bottom Hinge Sleeve	1	Door alignment adjustment sleeve.
77	63899	Hinge Pivot Cover	1	Covers the frame around the bottom door hinge.
78	63896	Door Bottom Hinge Bracket Assembly	1	Attaches the door to the oven and allows it to open.

*Not Shown



ITEM	PART NO.	DESCRIPTION	QTY.	FUNCTION
79	65238	Air Duct Assembly	1	Thermal barrier to the rear exhaust vent.
80	63927	Thermocouple	1	Sensor for interior oven temperature.
81	65127	24" (61 cm) Sleeving	1	Protects thermocouple wire.
*82	21342	Oven Stacking Kit (M4200-3S only)	1	Used to secure the oven on top of another oven.
*83	21330	Caster Kit (For M4200-3S ovens only)	1	Kit of parts to provide mobility to the M4200-3S oven.

*Not Shown

HARDWARE IDENTIFICATION

ITEM	PART NO.	DESCRIPTION	TOTAL QUANTITY
a	55618	4-40 Screw x 3/8" (10 mm) long	2
b	55496	4-Flat Washer	4
c	55474	4-Split Lock Washer	2
d	55276	4-40 Hex Nut	2
e	60329	6-32 Screw x 7/8" (22 mm) long	2
f	51245	6-32 Screw x 1/2" (13 mm) long	2
g	60732	6-32 Screw x 1/4" (6 mm) long	4
h	53923	6-32 Screw x 3/16" (5 mm) long	9
j	55495	6-Flat Washer	2
k	53961	6-32 Kep Hex Nut	2
l	65201	8-32 Screw x 2" (5,0 cm) long	2
m	54911	8-32 Screw x 7/8" (22 mm) long	2
n	65000	8-Self-Tapping Screw x 1/2" (13 mm)	31
p	61620	8-32 Screw x 1/2" (13 mm) Tri Head	29
q	54285	8-32 Screw x 1/2" (13 mm) Flat Head	6
r	55204	8-Flat Washer	8
s	51053	8-32 Kep Hex Nut	28
t	57943	8-Tinnerman Clip	2
u	51039	8-Speed Nut, Type J	2
v	63909	8-Spacer	4
w	60821	10-32 Screw x 1-1/2" (3,8 cm) long	5
y	65001	10-Self-Tapping Screw x 1/2" (13 mm)	5
z	61180	1/4-20 Bolt x 1-1/4" (3,1 cm) long	2
aa	61048	1/4-20 Bolt x 3/4" (19 mm) long	8
bb	57761	1/4-20 Screw x 5/8" (16 mm) long	4
cc	61791	1/4 Flat Washer	8
dd	55486	1/4 Split Lock Washer	4
ee	55485	1/4-20 Hex Nut	4
ff	65504	1" (25 mm) NPT Locknut	1
99	64363	3/4-10 UNC Nut	1

EQUIPMENT SET-UP AND CLOSE PROCEDURES

Set-up

1. Make sure the power cord is plugged into the appropriate receptacle.
2. Place the 3 product racks in the 2, 5, and 8 rack support positions.
3. Place the ON/OFF/FAN switch in the ON position. The red power ON light will come ON.
4. Check oven set temperature. Press and hold the temp button for 5 seconds or until the screen flashes the current set temperature in degrees. If this is not right refer to and follow the step by step procedure for "Setting the Oven Temperature."
5. If the oven set temperature is correct, press the temp button again to clear the display.
6. Ensure that the door is closed. The amber heat ON light will come on indicating that the heaters are ON.
7. Allow the oven to preheat for 30 minutes.

NOTE: The product timer can be used for timing this pre-heat time.

8. When the amber heat ON light goes out the oven is ready to use. From then on the amber heat ON light will cycle ON and OFF with the heaters (the lights and heaters will be ON at the same time).
9. Check to see that the timers are set for the correct times. If not, see "Setting the Timers".

Close

1. Place the ON/OFF/FAN switch in the FAN position, open the door and leave it ajar while the oven cools down for 20 minutes.

NOTE: The product timer can be used for this 20 minute cooling cycle.

CAUTION: The oven is still hot at this point, it can burn you. Hand protection is required.

2. Remove the 3 product racks and the rack supports. Clean them with a hot solution of **McD All Purpose Concentrate (APC) (HCS)** from the sink proportioner.

3. Spray a diluted solution of **McD High Temp Grill Cleaner (HCS)** on all of the exposed oven interior cavity surfaces.

NOTE: Mix 1 part **McD High Temp Grill Cleaner (HCS)** to 5 parts hot water for the cleaning solution.

4. Close the oven door, place the ON/OFF/ FAN switch in the OFF position and let stand for 10 minutes.
5. Wipe or scrub the interior surfaces with a clean damp cloth or a nylon pad. Rinse/ wipe with a wet towel to remove all solution residue.
6. Wipe down the exterior of the oven.
7. Replace the rack supports and the product racks. Leave the oven door open overnight.

SETTING THE OVEN TEMPERATURE (See Figure 1)

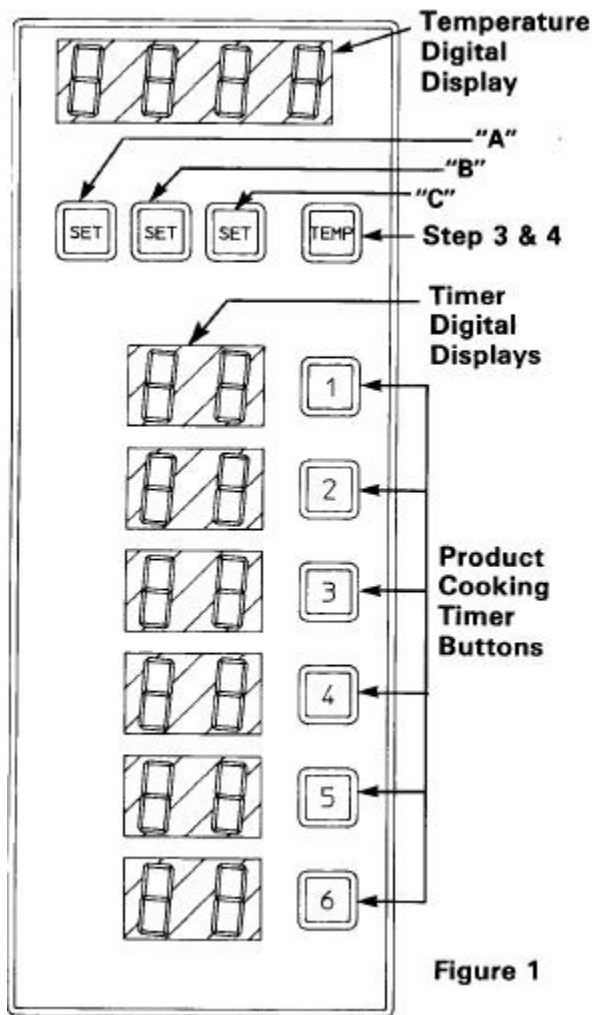
1. Make sure that the power cord is plugged into the appropriate power supply receptacle.
2. Place the ON/OFF/FAN switch in the ON position.

NOTE: No display will be present until the Temp button is pressed.

3. Press the temp button momentarily to display the current oven temperature. The display will hold for 5 seconds.
4. Press the temp button and hold it for 3 seconds. This will cause the current set temperature to flash. The controller is now in the programming mode.
5. Use the 3 set buttons (A,B, and C) to set oven temperature. Press Set button "A" to set hundreds, press button "B" to set tens, and press button "C" to set ones for oven temperature. The corresponding digit on the screen above the buttons will increase from "0" to "9". Lift finger from button when desired digit is displayed on the screen.
6. Press the temp button to exit the programming mode. The new set temperature will automatically be stored in memory.

NOTE: Failure to press the temp button within 30 seconds of programming the new oven set temperature will cause the controller to assume the original oven set temperature and delete the new oven set temperature just entered

7. The maximum temperature the controller can be programmed for is 500° F (260 °C), although the actual oven temperature displayed may read as high as 600° F (316 °C). If an attempt is made to program the controller for temperatures higher than 500° F (260 °C), the controller will automatically adjust the oven set temperature to 500 °F (260°C).



TIMER SETTING AND OPERATION

Wells convection ovens have a product cooking timer as part of the oven control panel. The timer consists of 6 independent product cooking timers that can be activated and deactivated independently of each other by pressing the corresponding timer operation button on the control panel.

SETTING THE TIMERS (See Figure 1)

1. Make sure that the power cord is plugged into the appropriate power supply receptacle.

2. Place the ON/OFF/FAN switch in the ON or FAN position.
3. Verify that the time being displayed on the appropriate product cooking timer is correct; if not, proceed as follows.
4. With the timer display at low intensity: (Idle - not counting down)
 ONES — Depress set button "C" with your left-hand finger and press the corresponding timer button (1-6) with your right-hand finger. The right-most digit of the timer display will brighten and start to rotate through the digits "0" to "9". To stop the display at the desired digit, release both buttons. The display will then stop and retain the setting and return to the idle mode.
 TENS — Depress set button "B" with your left hand finger and press the corresponding timer channel button (1-6) with your right hand finger. The left most digit of the timer display will brighten and start to rotate through the digits "0" to "9". To stop the display at the desired digit, release both buttons. The display will then stop and retain the setting and return to the idle mode.

OPERATION:

1. Make sure that the power cord is plugged into the appropriate power supply receptacle.
2. Place the ON/OFF/FAN switch in the ON position.
3. Verify that the time displayed is correct for the product cooking timer needed; if not, see "Setting the Timers."
4. To start a product cooking timer, press the corresponding timer operation button once. The digital display will become brighter and a timing indicator dot will appear and start blinking in the lower right-hand corner of the digital display. The timer will then automatically begin to countdown. The display will indicate the total time remaining in cooking cycle.
5. When each timer reaches "00", a three-tone audible signal will be heard, and the digital display will blink.
6. To stop a product cooking timer or to cancel the 3-tone audible signal, press the corresponding timer operation button once.

CALIBRATION

Tools: Digital Thermometer with Oven Probe; Oven Mitt.

1. Be sure the oven is plugged into the appropriate power supply receptacle.
2. Open the oven door and clamp the oven probe in the center of the middle rack.
 - A. Pass the oven probe wire between the door and the door gasket. Close the door.
 - B. Plug the oven probe wire into the digital thermometer.
3. Place the ON/OFF/FAN switch in the ON position.
4. Allow the oven to warm up for 30 minutes.

NOTE: All product cooking timers must be in the idle mode (low intensity display) before calibration can begin.

5. Press and hold the temp button for 10 seconds. The display should be flashing the word "CAL b". (See Figure 2)
6. Press the product timer buttons sequentially (1-6). The temperature display will read "- -" and will remain that way until Step 8.
7. Note the reading on the digital thermometer when the heat ON (amber) light goes from ON to OFF.
8. When the heat ON light goes OFF there will be an audible beep and the temperature display will record the temperature of the oven at that time.
9. The temperature displayed on the oven should be within 3°F (1 °C) of the temperature displayed on the digital thermometer. If the temperatures are within 3°F (1 °C) calibration check is complete. If the difference between the temperatures is greater than 3°F (1 °C) proceed with Step 10.
10. Use the SET buttons located below the temperature display (Figure 2) to set the displayed temperature so that it is the same as the temperature reading on the digital thermometer.
11. Use the right-most SET button to increase the temperature and the left-most SET button to decrease the temperature (see figure 2). A maximum of 50° F (33° C) correction can be made to the original temperature reading.

12. Press the temp button to record the new setting and to exit the calibration mode.
13. Place the ON/OFF/FAN switch to the OFF position.

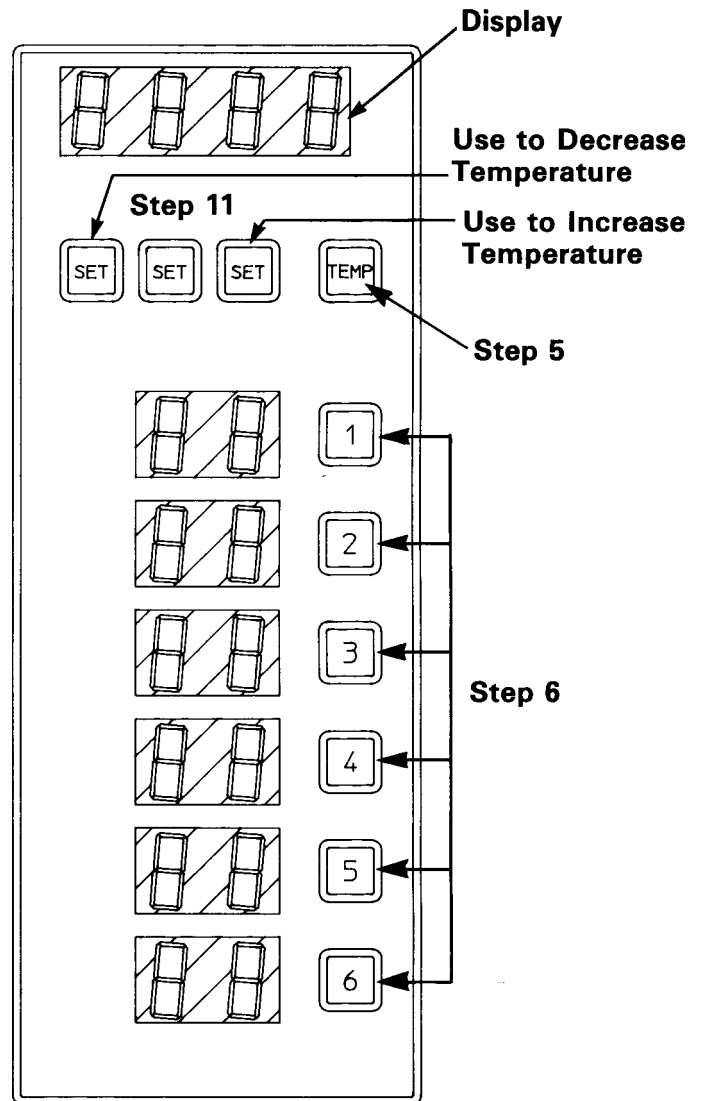


Figure 2

WARNING: Use an oven mitt when unclamping and removing the oven probe. The oven interior and probe are HOT.

14. Open the oven door and remove the oven probe.

The digital display will change to the idle mode (low intensity), the timing indicator dot will turn OFF and the 3-tone audible signal will be cancelled.

TROUBLESHOOTING

PROBLEM	PROBABLE CAUSE	CORRECTIVE ACTION
ON/OFF/FAN switch is in the ON or FAN position and oven fails to operate. (No Red Power ON Light operating)	No power to the unit.	Verify power connection, check circuit breaker.
	Faulty ON/OFF/FAN switch.	Call service agency.
	Oven temperature too high, high-limit thermostat has tripped.	Check setting and calibration or the temperature controller, allow oven to cool and reset the high-limit thermostat.
	Faulty high-limit thermostat.	Call service agency.
ON/OFF/FAN switch is in the ON or FAN position and oven fails to operate. (Red Power ON Light is all that works)	Blown oven fuse.	Check and replace fuse.
ON/OFF/FAN switch is in the ON position and oven fails to operate. (Blower and Heat ON Light do not operate)	Door not closed.	Check door and close.
	Door ajar switch out of adjustment, or defective.	Adjust or replace the door ajar switch.
	Faulty door relay.	Replace door relay.
ON/OFF/FAN switch is in the FAN position and the blower fails to operate.	Faulty ON/OFF/FAN switch.	Replace ON/OFF/FAN switch.
	Faulty door relay.	Replace door relay.
	Blower is not operating.	See troubleshooting guide for blower problem.
Blower does not operate (all other functions are operational)	Blower motor has overheated.	Allow the oven/motor to cool, retry operation.
	Faulty blower motor.	Call service agency.
Actual oven temperature is below the Set Temperature and the Heat ON Light does not signal Power to the Heaters.	Controller out of calibration.	Check temperature controller calibration.
	Defective temperature controller.	Call service agency.
Actual oven temperature is above the Set Temperature and the Heat ON Light does signal Power to the Heaters	Temperature controller out of calibration.	Check temperature controller calibration.
	Defective temperature controller.	Call service agency.
Actual oven temperature is below the set Temperature and the Heat ON Light is constantly ON.	Faulty mercury relay.	Call service agency.
	Faulty heating elements.	Call service agency.

PROBLEM	PROBABLE CAUSE	CORRECTIVE ACTION
Product is burning.	Temperature set too high.	Check temperature setting.
	Temperature controller out of calibration.	Check temperature controller calibration.
	Timer set to the wrong time for the product.	Check timer setting.
Product is not cooked.	Temperature set too low.	Check temperature setting.
	Temperature controller out of calibration.	Check temperature controller calibration.
	Oven not operating.	See troubleshooting guide for power problems.
	Timer set to the wrong time for the product.	Check timer setting.
	Faulty mercury relay.	Call service agency.
	Faulty heating element(s).	Check and replace if necessary.
	Blower not operational.	Check and replace if necessary.
Time display readout does not work.	Loose connection.	Check wire connections.
Time program cannot be changed.	Faulty oven controller.	Call service agency.
	Loose connection.	Check wire connection.
Timer does not start when operate button is pushed.	Faulty oven controller.	Call service agency.
	Loose connection.	Check wire connection.
No three-tone signal is heard at the end of the time cycle.	Faulty oven controller.	Call service agency.
	Loose connection.	Check wire connection.

PARTS ORDERING/ SERVICE INFORMATION

If service parts or technical information is required, please contact the Factory Service Department. To help speed up your inquiry, the following information is required: (fill in for your records)

1. Model Number: _____
2. Serial Number: _____
3. Voltage: _____
4. Item Part Number: _____
5. Quantity required: _____

6. Nature of service problem and the symptoms of the unit.

NON-SCHEDULED MAINTENANCE

Under normal conditions, with proper use and cleaning, very little non-scheduled maintenance (NSM) will be required for this unit. However, this section provides procedures for checking and replacement of various parts and components in the event that it becomes necessary. Before replacement of any parts, refer to the Troubleshooting Guide for assistance in determining the cause of any malfunction and remember, if in doubt, call the Service Department: Wells Manufacturing Company, P.O. Box 280, Verdi, Nevada 89439, (702) 345-0444.

WARNING: SOME OF THE PROCEDURES CONTAINED ON THIS SECTION INVOLVE ACCESSING BARE ELECTRICAL TERMINALS AND EXPOSURE TO VOLTAGES CAPABLE OF PRODUCING A FATAL SHOCK; THEREFORE, THEY MUST BE USED BY PROPERLY TRAINED PERSONNEL AND STANDARD SAFETY RULES FOR ELECTRICAL EQUIPMENT MUST BE ADHERED TO.

NOTE: The wiring diagram is located on the inside of the right side panel of the oven. In order to use it, the right side panel must be removed, but only after the unit has been unplugged from the power supply receptacle.

NOTE: Loctite #242 should be applied to all threaded hardware parts before reassembly (except electrical wire connection terminals).

NOTE: Extra care is required when reinstalling self-tapping screws to avoid stripping of the threads.

REVERSING THE OVEN DOOR

Tools: 1/4" (6 mm) Blade Screwdriver, 7/16" (11 mm) Socket/Ratchet, Phillips Head Screwdriver, Open End Wrench.

Parts: None.

1. Unplug the power cord from the power supply receptacle.

WARNING: Failure to do so will result in electrical shock.

2. Remove the tower front trim from the oven.

NOTE: Step 3 is for M4200-3 oven only.

3. Remove the prep-top assembly.
4. Remove the oven top.
5. Open the oven door and remove the door handle from the door.
6. Rotate the door handle 180 degrees and reinstall on the door.
7. Using a 1/4" (6 mm) blade screwdriver, remove the lower screw from the top hinge only and loosen the top screw only. The top hinge pin will now slide into the door and reset on the upper screw that was loosened.
8. Remove the door by pulling it slightly forward and lifting it up and out of the bottom hinge.
9. Using a 7/16" (11 mm) socket/ratchet, remove the top and bottom hinge bracket assemblies and reinstall them into the opposite end of the oven frame in the holes provided.
10. Remove the door latch assembly and the corresponding screws from the door jam. Reinstall the door latch assembly on the opposite side and replace the screws into the open screw holes on the opposite door jam.

11. Using a 1/4" (6 mm) blade screwdriver remove top and bottom hinge pins and reinstall them in the reverse position. Leave the upper screw in the top hinge pin loose.
12. Reinstall the door and tighten the top hinge screws.
13. Reverse the procedure to reinstall the remaining parts.
14. Adjust the door per Non-Scheduled Maintenance Procedure found on page 29.

STACKING TWO OVENS

Tools: #2 Phillips Head Screwdriver, 10" (25,4 cm) Adjustable Wrench.

Parts: Oven Stacking Kit.

NOTE: This oven stacking kit has been designed such that any combination of Wells and Hobart ovens can be stacked.

1. Unplug the power cord.

WARNING: Failure to do so will result in electrical shock.

2. Remove the prep-top assembly (if installed) from the oven that has been designated as the bottom unit.
3. Carefully lay the top oven on its back. Remove the casters and install the left and right stacking brackets on the bottom of the oven.
4. Punch out the 2 access knockouts located on the right side of the oven top.
5. Lift the top oven onto the top of the bottom oven and bolt it into place through the 2 holes in the bottom oven top.
6. Install the front and rear trim parts into the left and right stacking brackets.

REPLACEMENT OF THE ON/OFF/FAN SWITCH
(Should be done by a qualified service person)

Tools: Phillips Head Screwdriver, Needle Nose Pliers, 1/16" (2 mm) Flatblade Screwdriver.

Parts: ON/OFF/FAN Switch.

1. Unplug the power cord.

WARNING: Failure to do so will result in electrical shock.

2. Using the phillips screwdriver, turn the 2 captive screws at the upper and lower left-hand side of the control panel until the panel is released. Then swing the panel open.

NOTE: The screws will remain with the panel.

3. Disconnect the wire leads from the rear of the ON/OFF/FAN switch.
4. From the rear of the switch, use the 1/16" (2 mm) flatblade screwdriver and pry the top flange of the switch upward to release the switch from the metal bracket. Remove the metal bracket through the front of the control panel and the switch from the rear.

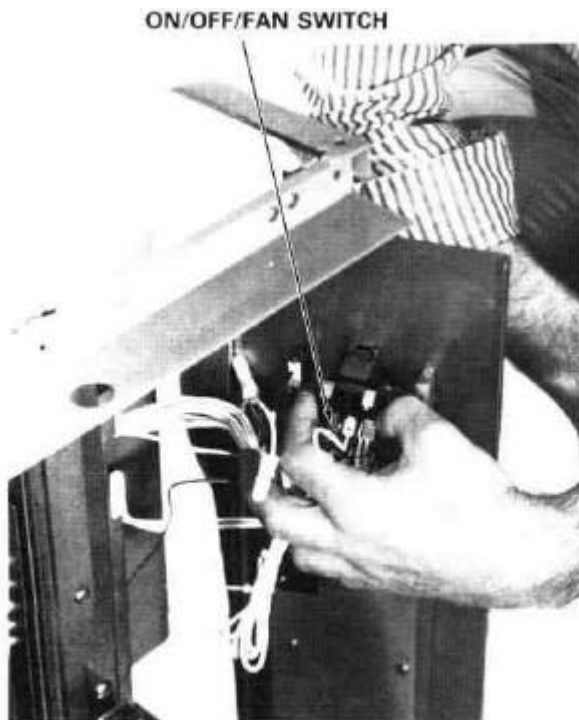


Figure 3

5. Reverse the procedure and use the wiring diagram to install the new ON/OFF/FAN switch.

REPLACEMENT OF THE HIGH-LIMIT THERMOSTAT (Should be done by a qualified service person)

Tools: Phillips Head Screwdriver, Flatblade Screwdriver, 5/16" (8 mm) Nutdriver.

Parts: High-Limit Thermostat.

1. Unplug the power cord.

WARNING: Failure to do so will result in electrical shock.

Remove the racks and the rack supports from the oven interior. Remove the interior air baffle

by lifting it at the bottom and pulling it up and out.

3. Remove the top high-limit thermostat clip by removing the 2 screws holding it in place. (See Figure 4)

TOP HIGH-LIMIT THERMOSTAT CLIP

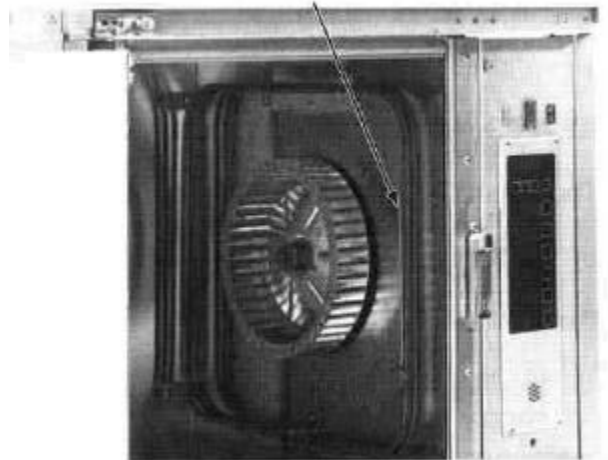


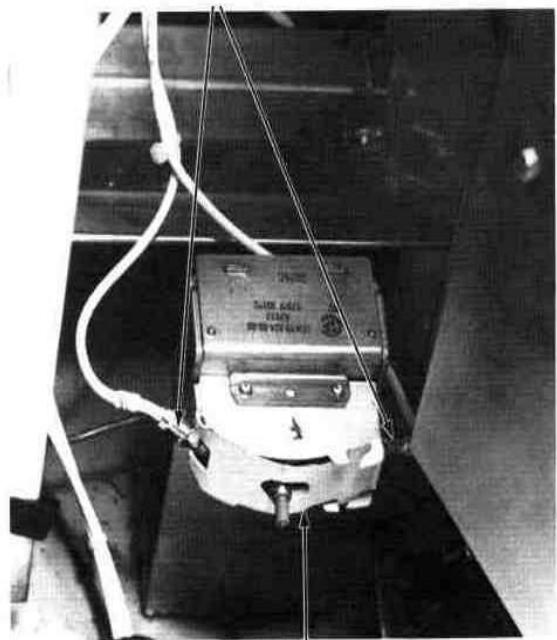
Figure 4

4. Using the phillips screwdriver, turn the 2 captive screws at the upper and lower left-hand side of the control panel until the panel is released. (See Figure 5) Then swing the panel open.

NOTE: The screws will remain with the panel.

5. Disconnect the electrical wires from the thermostat body and remove the thermostat body from the supporting bracket. (See Figure 5)

ELECTRICAL WIRES



6. Remove the thermostat capillary and bulb from the inside of the oven and remove the high-limit thermostat from the oven. (See Figure 5)

NOTE: Adjust the thermostat body on the support bracket so that the red trip-plunger is centered and extends 1/8" (3 mm) through the hole in the front control panel.

7. Reverse the procedure and use the wiring diagram to install the new high-limit thermostat.

REPLACEMENT OF THE FUSE

Tools: Phillips Head Screwdriver.

Parts: Fuse.

NOTE: A spare fuse is supplied with the oven.

1. Unplug the power cord.

WARNING: Failure to do so will result in electrical shock.

2. Press and twist off the fuse holder cap located in the lower left-hand corner of the back panel. Remove the fuse from the fuse holder cap. (See Figure 6)

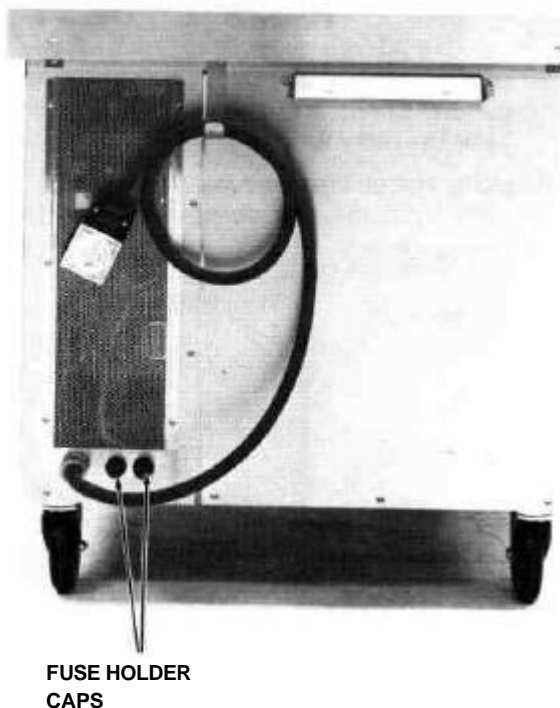


Figure 6

3. Reverse the procedure to install the new fuse.

ADJUSTMENT/REPLACEMENT OF THE DOOR AJAR SWITCH (Should be done by a qualified service person)

Tools: Phillips Head Screwdriver, 1/16" (2 mm) Flatblade Screwdriver.

Parts: Door Ajar Switch.

1. Unplug the power cord.

WARNING: Failure to do so will result in electrical shock.

2. Remove the lower front trim by removing the 4 screws located on the sides of the trim piece. (See Figure 7)

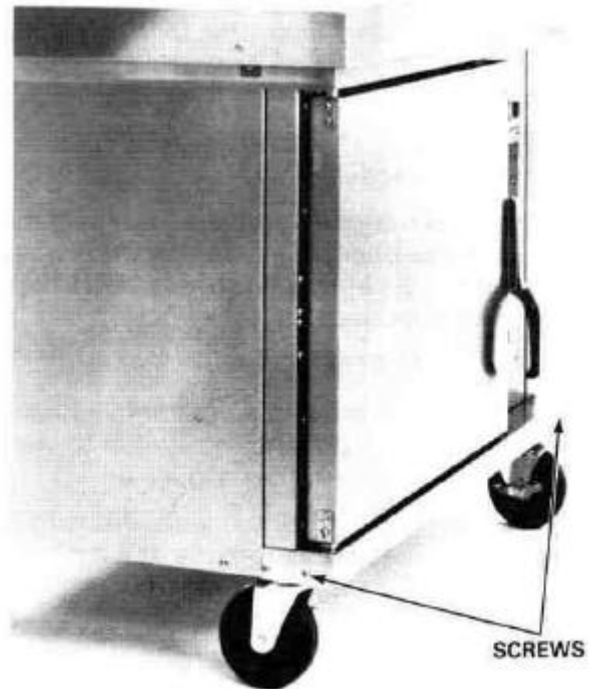


Figure 7

3. FOR ADJUSTMENT ONLY.

CAUTION: The following steps are performed with the power connected to the cabinet. Use appropriate safety.

To Increase the Switch Sensitivity:

- A. Use the 1/16" (2 mm) flatblade screwdriver to loosen the 2 screws holding the switch to the support bracket and adjust the switch upward approximately 1/16" (2 mm).
- B. Plug the power cord back into the power receptacle, press the ON/OFF/FAN switch to the ON position, and open and close the door to verify the adjustment.

C. Repeat until the door ajar switch functions properly.

NOTE: It is possible to adjust the door ajar switch such that it will interfere with the reinstallation of the lower front trim piece.

WARNING: Make sure that the door ajar switch shield is in place prior to reinstalling the lower front trim piece. Failure to do so may cause the switch to malfunction.

To Decrease the Switch Sensitivity:

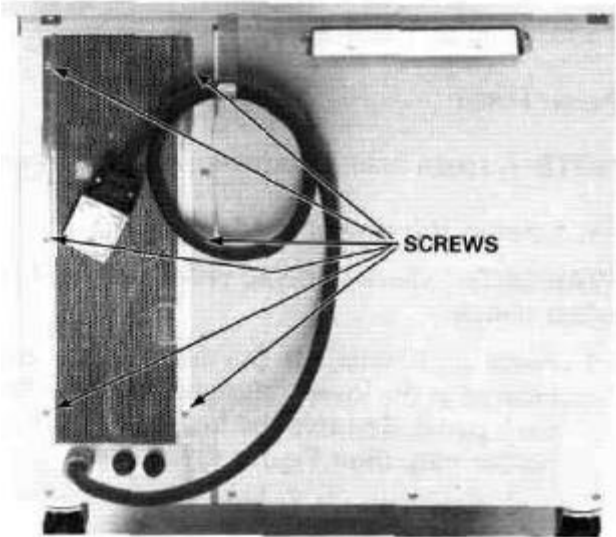


Figure 9

WARNING: Make sure that the door ajar switch shield is in place prior to reinstalling the lower front trim piece. Failure to do so may cause the switch to malfunction.

4. FOR REPLACEMENT ONLY:

A. Use the flatblade screwdriver to loosen the 2 screws holding the switch to the support bracket.

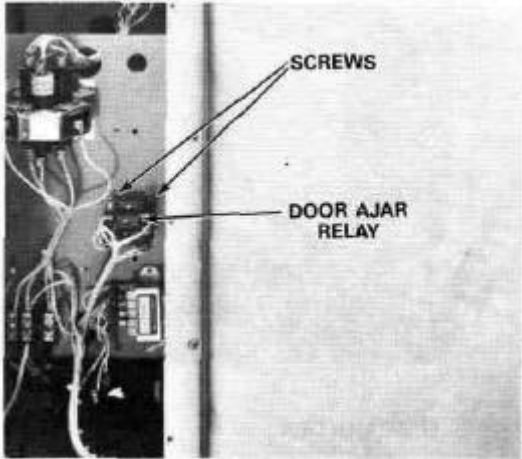


Figure 8

3. Locate the door ajar relay on the rear component panel and disconnect the wires from the relay with the needle nose pliers.
4. Using the phillips screwdriver, remove the relay from the rear component panel.

(See Figure 8)

B. Disconnect the switch leads from the wire harness and remove the switch from the oven.

C. Reverse the procedure to install the new door ajar switch.

WARNING: Make sure that the door ajar switch shield is in place prior to reinstalling the lower front trim piece. Failure to do so may cause the switch to malfunction.

REPLACEMENT OF THE DOOR AJAR RELAY
(Should be done by a qualified service person)

Tools: Phillips Head Screwdriver, Needle Nose Pliers.

Parts: Door Ajar Relay.

1. Unplug the power cord.

WARNING: Failure to do so will result in electrical shock.

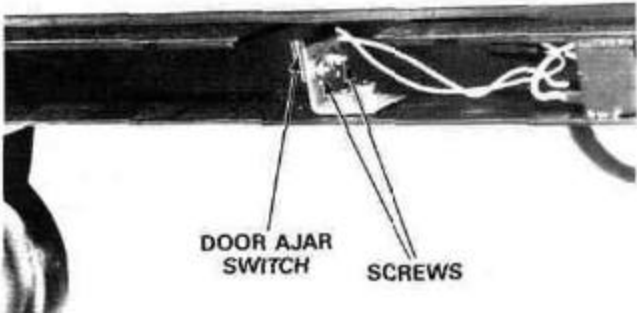


Figure 10

2. Using the phillips screwdriver, remove the rear access cover. (See Figure 9)

A. Use the 1/16" (2 mm) flatblade screwdriver to loosen the 2 screws holding the switch to the support bracket and adjust the switch downward approximately 1/16" (2 mm). (See Figure 8)

B. Plug the power cord back into the power receptacle, press the ON/OFF/FAN switch to the ON position, and open and close the door to verify the adjustment.

C. Repeat until the door ajar switch functions properly.

5. Reverse the procedure and use the wiring diagram to install the new door ajar relay.

REPLACEMENT OF THE FAN MOTOR (Should be done by a qualified service person)

Tools: Phillips Head Screwdriver, 5/32" (3 mm)
Hex-Key Wrench, 8" (20,3 cm) Adjustable
Wrench, Short Handle Flatblade
Screwdriver.

Parts: Fan Motor.

1. Unplug the power cord.

WARNING: Failure to do so will result in electrical shock.

2. Remove the racks, rack supports, and interior air baffle from the oven interior.
3. Loosen the 2 hex-key set screws on the blower wheel and remove the wheel from the motor shaft. (See Figure 11)

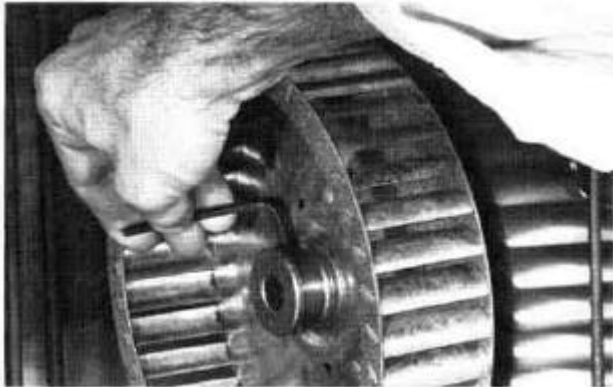


Figure 11

4. Remove the right side panel.
5. Remove the top of the motor electrical junction box located on the top of the motor and disconnect the wiring to the motor. (See Figure 12)
7. Remove motor ground wire.
8. Reverse the procedure and use the wiring diagram to install the new Fan Motor.

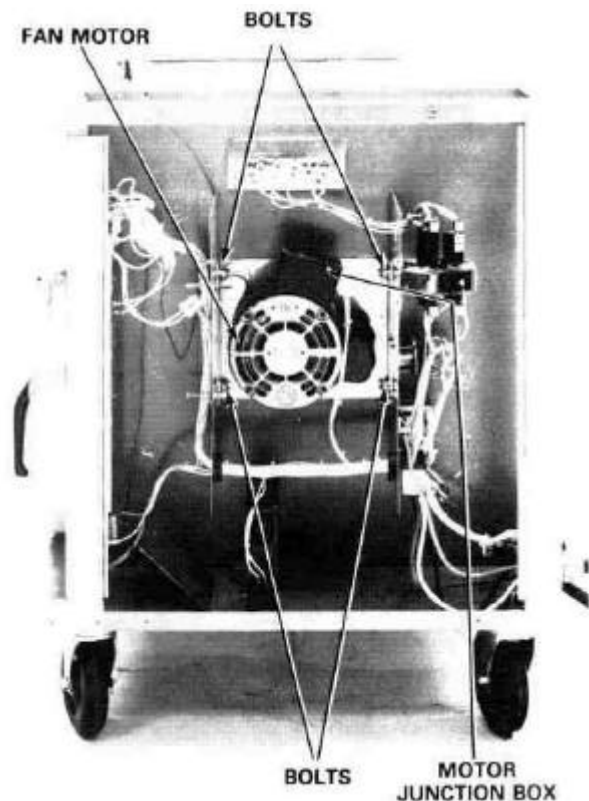


Figure 12

REPLACEMENT OF THE OVEN CONTROLLER
(Should be done by a qualified service person)

Tools: Phillips Head Screwdriver, 11/32" (8 mm) Nut
Driver, Long nose pliers, Flatblade
screwdriver.

Parts: Oven Controller

1. Unplug the power cord.

WARNING: Failure to do so will result in electrical shock.

- Using the phillips screwdriver, turn the 2 captive screws at the upper and lower left-hand side of the control panel until the panel is released. Swing the panel open.

NOTE: The screws will remain with the panel.

- Using the long nose pliers, disconnect the electrical wire connections, and unscrew the thermocouple wires. (See Figure 13)
- Using the nut driver, remove 4 hex-nuts and remove the oven controller. (See Figure 13)
- Reverse the procedure to install the new oven controller.

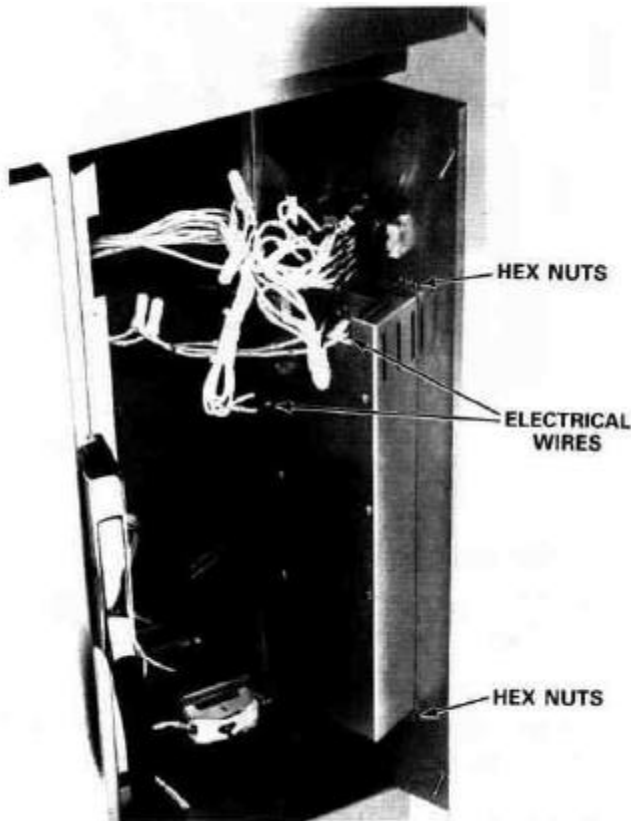


Figure 13

REPLACEMENT OF THE MERCURY POWER RELAY (Should be done by a qualified service person)

Tools: Phillips Head Screwdriver, 1/4" (6 mm)
Flatblade Screwdriver.

Parts: Mercury Power Relay.

- Unplug the power cord.

WARNING: Failure to do so will result in electrical shock.

- Remove the rear access cover by removing 6 screws.

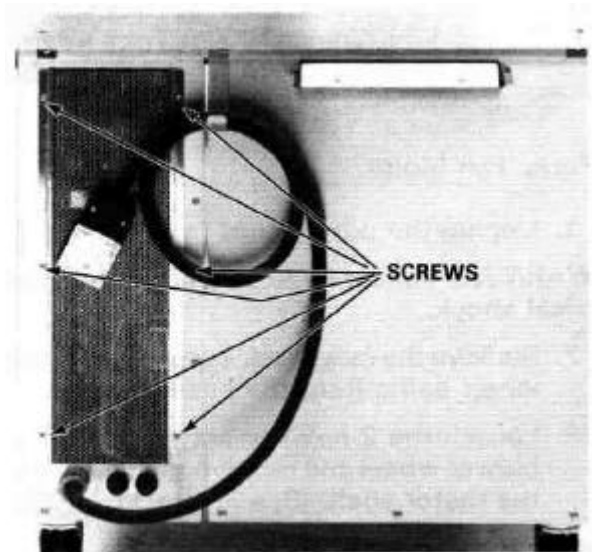
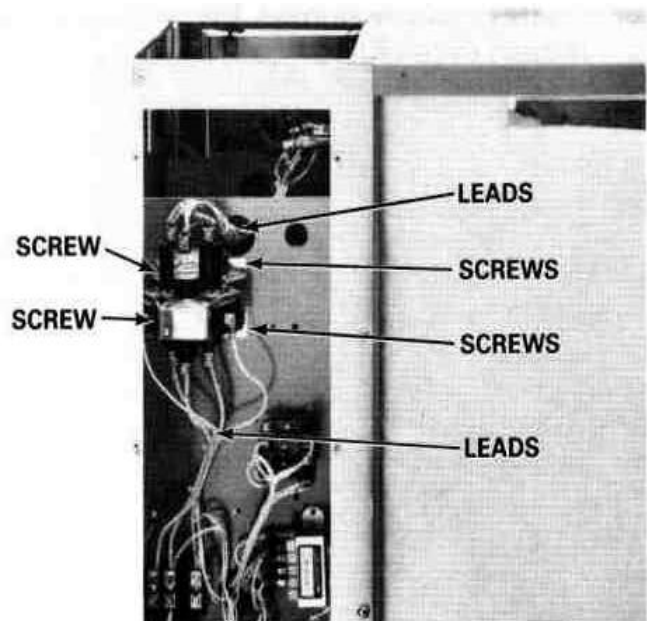


Figure 14

- Disconnect the leads from the mercury power relay. (See Figure 15)
- Remove the 2 screws from the bottom left and top right of bracket. (See Figure 15)
- Loosen the 2 screws from the top left and bottom right of bracket, and remove the mercury relay by sliding it toward the top right. (See Figure 15)
- Reverse the procedure and use the wiring diagram for installing the new mercury power relay.



REPLACEMENT OF THE HEATING ELEMENT(S)
(Should be done by a qualified service person)

Tools: Phillips Head Screwdriver, 3/8" (10mm) Open End Wrench, 11/32" (8 mm) Nut-driver.

Parts: Heating Element (outer). Heating Element (center). Heating Element (inner).

1. Unplug the power cord.

WARNING: Failure to do so will result in electrical shock.

2. Remove the racks and rack supports. (See Figure 16)
3. Remove the interior air baffle by lifting at the bottom and pulling forward. (See Figure 16)

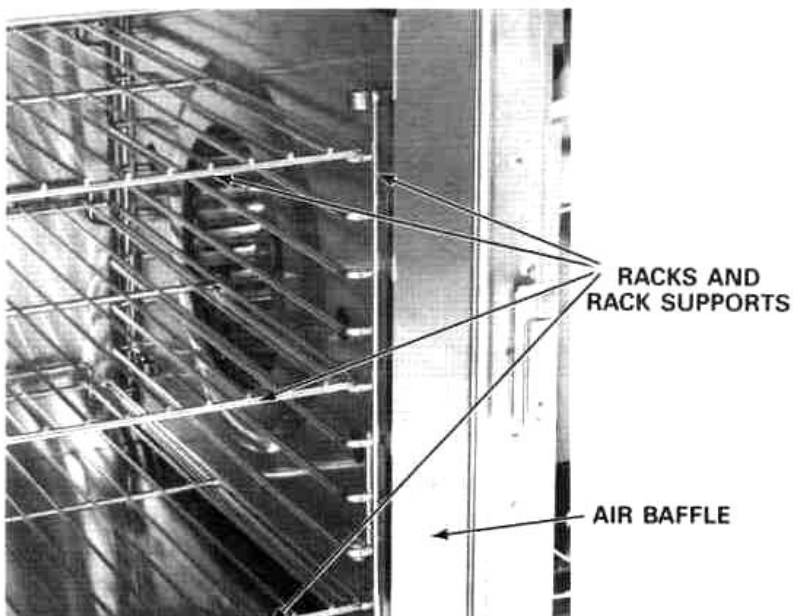


Figure 16

4. Remove right side panel by removing 2 screws at the bottom and loosening 2 screws at the top. Pull side panel out from oven frame bottom about 1/2" (13 mm) then pull down to remove.

NOTE:

- A. Remove the outer element only when it has to be replaced.
- B. Remove the outer and center elements when the center is to be replaced.
- C. Remove all 3 elements when the inner element is to be replaced.

5. Disconnect the wires from the element(s) that are to be removed. (See Figure 17)

NOTE: The inner 2 connections are for the outer heating element, the center 2 connections are for the center heating element and the outer 2 connections are for the inner heating element.

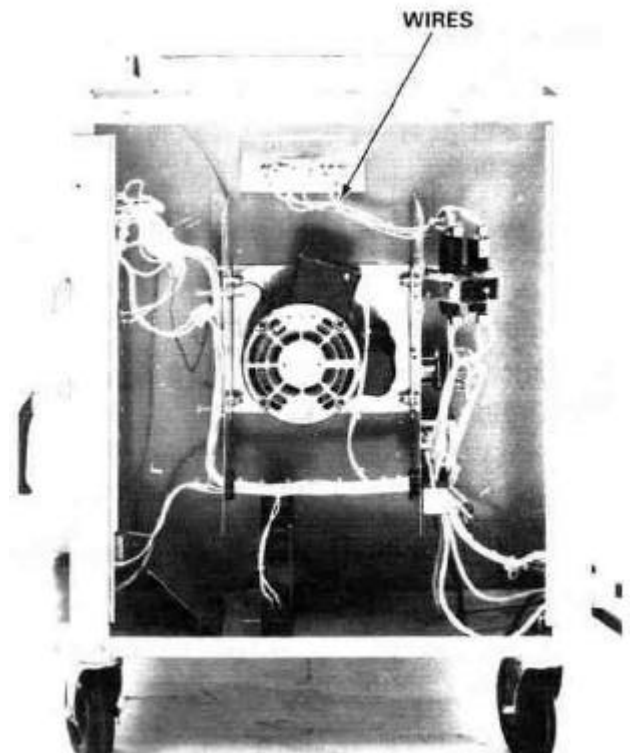


Figure 17

6. Remove the 6 heating element screws holding the heating elements to the element brackets. (See Figure 18)
7. Remove the 3 screws holding the inner portion of the element bracket to the cavity side and remove the 3 inner element brackets. (See Figure 18)

- 8. Remove the heating element(s) by pulling it straight out from the side of the cavity.
- 9. Reverse the procedure and use the wiring diagram to install the new heating elements).

REPLACEMENT OF THE POWER AND HEAT ON LIGHTS

Tools: Phillips Head Screwdriver, Needle Nose Pliers.

Parts: Power ON Light (red). Heat ON Light (amber).

- 1. Unplug the power cord.

WARNING: Failure to do so will result in electrical shock.

- 2. Using the phillips screwdriver, turn the 2 captive screws at the upper and lower left-hand side of the control panel until the panel is released. Swing the panel open.

NOTE: The screws will remain with the panel.

- 3. Disconnect the wires from the rear of the light(s). (See Figure 19)
- 4. Using the needle nose pliers, squeeze the 2 ears on the plastic body of the light and push it out of the control panel. (See Figure 19)
- 5. Reverse the procedure to install the new light(s).

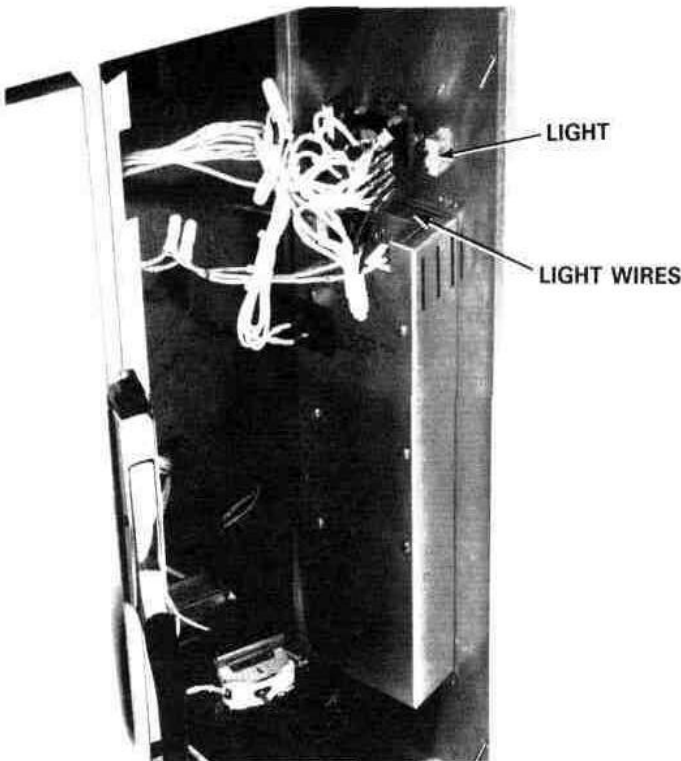


Figure 19

REPLACEMENT OF THE LOW VOLTAGE POWER TRANSFORMER (Should be done by a qualified service person)

Tools: Phillips Head Screwdriver, Needle Nose Pliers.

Parts: Transformer.

- 1. Unplug the power cord.

WARNING: Failure to do so will result in electrical shock.

- 2. Using the phillips screwdriver, remove the rear access cover. (See Figure 20)

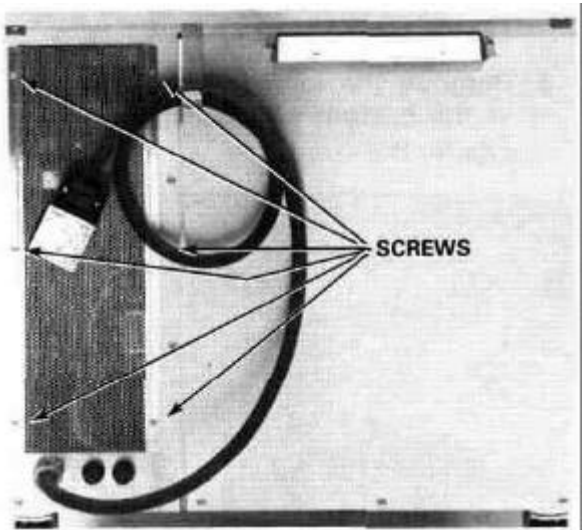


Figure 20

- 3. Locate the low voltage power transformer on the rear component panel and disconnect the wires from the transformer. (See Figure 21)
- 4. Using the phillips screwdriver, remove the transformer from the rear component panel. (See Figure 21)
- 5. Reverse the procedure and use the wiring diagram to install the new low voltage power transformer.

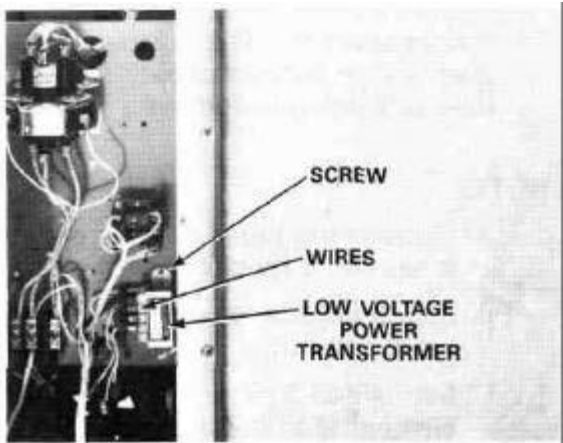


Figure 21

ADJUSTMENT OF THE DOOR (TOP TO BOTTOM)

Tools: Phillips Head Screwdriver, 10" (25 cm) . adjustable wrench.

Parts: None.

1. Unplug the power cord.

WARNING: Failure to do so will result in electrical shock.

2. Remove the lower front trim by removing the 4 screws located on the sides of the trim piece.

3. TO RAISE THE DOOR -

- A. Using the 10" (25 cm) adjustable wrench, loosen the retaining nut located at the bottom of the brass hinge sleeve. (See Figure 22)
- B. Using the 10" (25 cm) adjustable wrench, turn the brass hinge sleeve COUNTERCLOCKWISE to raise the door. (See Figure 22)

C. After the proper adjustment has been made, tighten the retaining nut up to the bottom of the brass hinge sleeve.

4. TO LOWER THE DOOR -

- A. Using the 10" (25 cm) adjustable wrench, loosen the retaining nut located at the bottom of the brass hinge sleeve. (See Figure 22)
- B. Using the 10" (25 cm) adjustable wrench, turn the brass hinge sleeve CLOCKWISE to lower the door. (See Figure 22)
- C. After the proper adjustment has been made, tighten the retaining nut up to the bottom of the brass hinge sleeve.

5. Once the proper adjustment has been made replace the lower front trim.

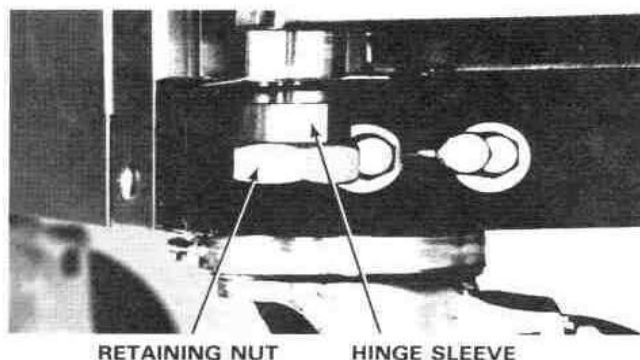


Figure 22

ADJUSTMENT OF THE DOOR TO THE DOOR GASKET

Tools: Phillips Head Screwdriver, 7/16" (11 mm) Ratchet/Socket Assembly (with minimum 2 1/2" (6,4 cm) extension)

Parts: None.

1. Unplug the power cord.

WARNING: Failure to do so will result in electrical shock.

2. Remove the lower front trim by removing the 4 screws located on the side of the trim piece.
3. Remove the top from the oven by removing the 8 screws located around its perimeter (note: the prep-top must be removed if it has been installed).
4. For each of the hinge brackets, top and bottom, adjust as follows:

DOOR CLOSER TO THE GASKET -

Turn the center bolt CLOCKWISE to the gasket, then tighten the 2 outer bolts to secure it in place. (See Figures 23 & 24)

DOOR TOO CLOSE TO THE GASKET -

Loosen the 2 outer bolts and turn the center bolt COUNTERCLOCKWISE to bring the door away from the door gasket. Secure it in place by tightening the 2 outer bolts. (See Figures 23 & 24)

5. Once the proper adjustment has been made, replace the lower front trim and the oven top.

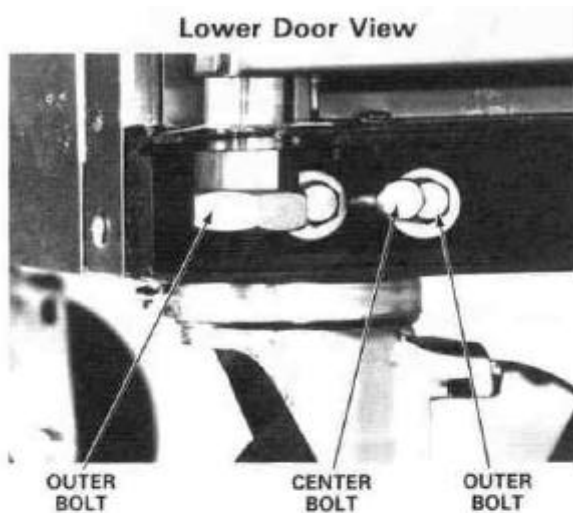


Figure 23

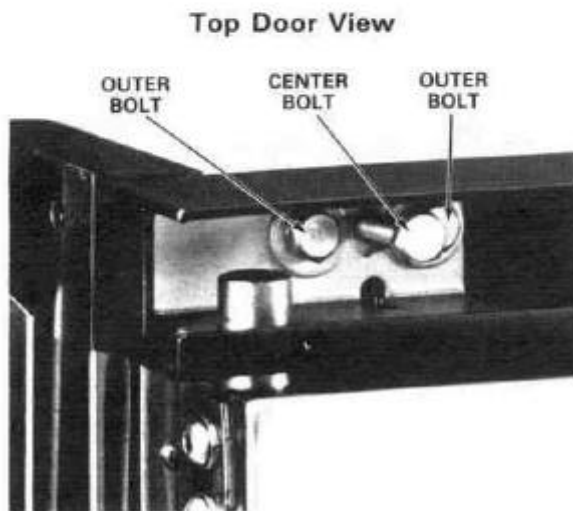
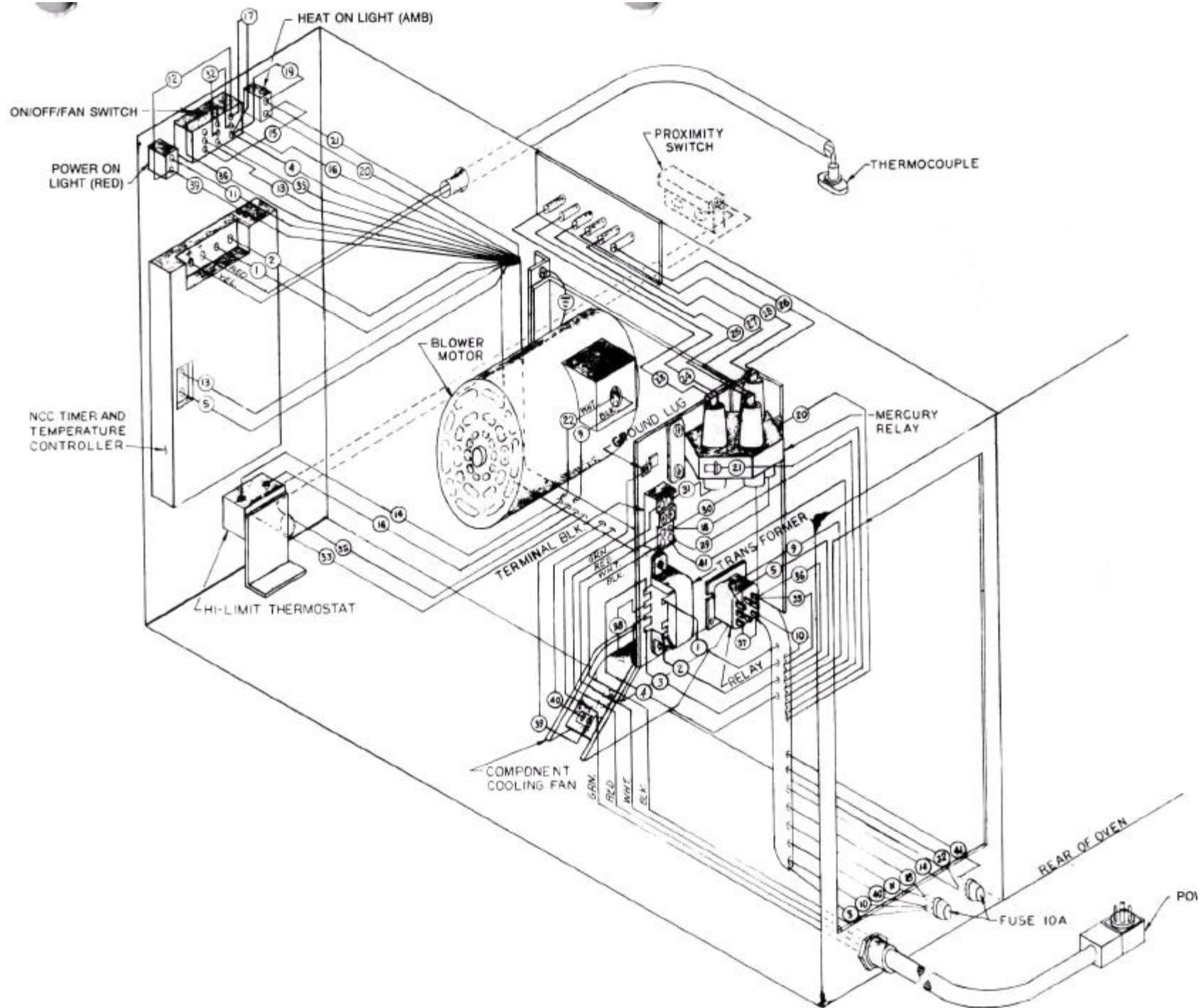
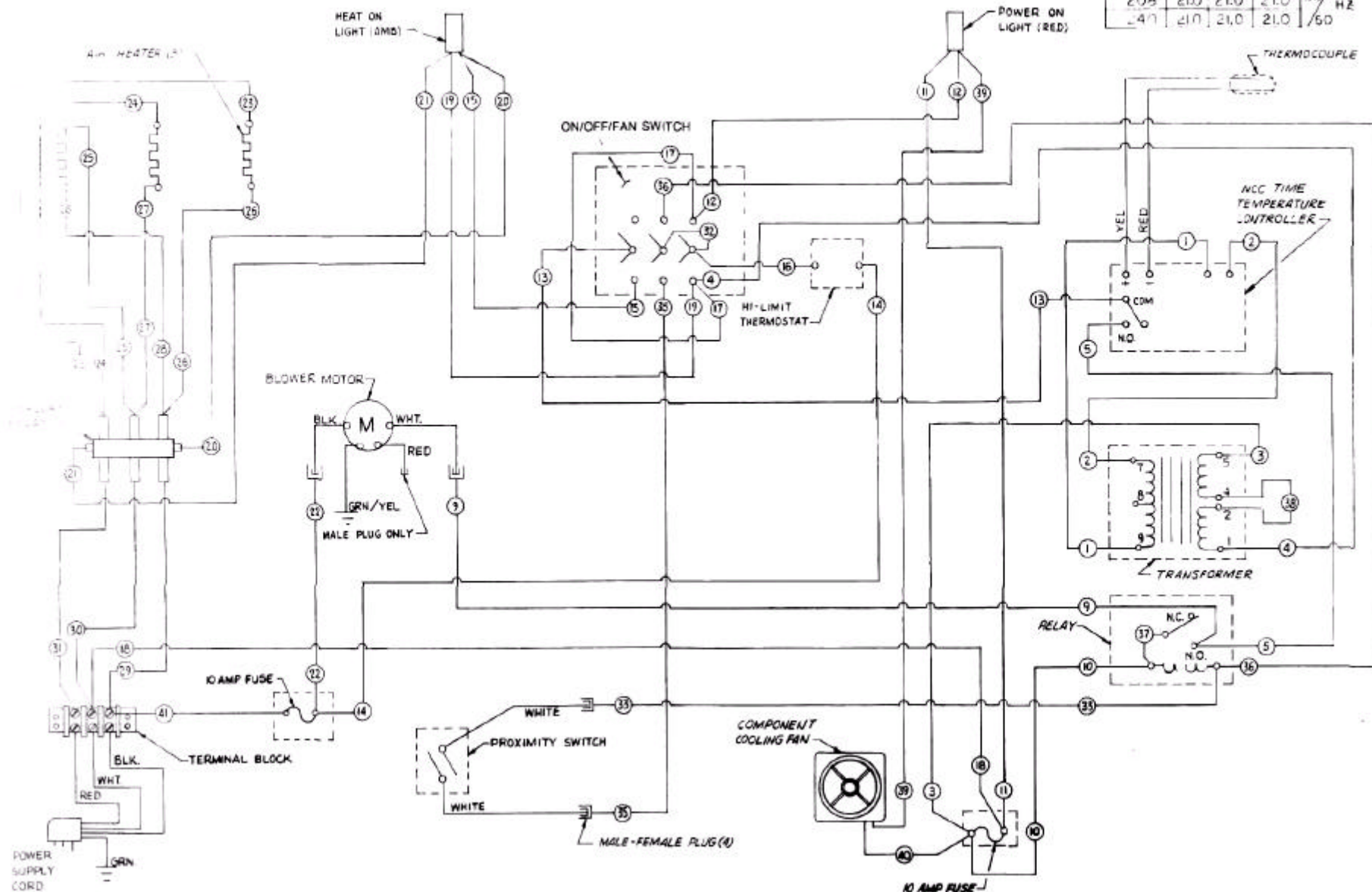


Figure 24



WIRING DIAGRAM FOR M4200-3, -3S CONVECTION OVEN 208 OR 240 VOLTS, 3 PHASE

VOLTS	AMPS			H.Z.
	L1	L2	L3	
208	21.0	21.0	21.0	60
240	21.0	21.0	21.0	50



WIRING DIAGRAM

INSTALLATION INSTRUCTIONS
For Converting an M4200 From 1 to 3 Phase

1. Warning: Be sure that all electrical power to the convection oven has been disconnected before proceeding.

2. Remove the right side panel as illustrated. This procedure may require the removal of either two 8-32 x 5/8" screws or four 8-32 x 5/8" screws depending on the model.

To remove the side panel that has two screws requires the operator to lift it up and pull it out. The four screw panel requires the operator to pull the panel out towards him/her and then down.

3. With step 2 completed, refer to the supplied wiring diagram (P/N 43923) for guided assistance. Listed below are two sets of procedures. Follow the procedure for the model unit you have.

For units using wiring diagram 43906:

- A. Disconnect jumper wire 39 from the top side of the mercury relay and discard.
- B. Take wires 23 and 26 from the wire set supplied (P/N 45074) and connect them to the mercury relay and the vacant heating element as illustrated in the wiring diagram.

For units using wiring diagram 45600:

- A. Disconnect wire 24 from the right leg (R) of the mercury relay and then install it to the left leg (L) of the same relay.
- B. Take wires 23 and 26 from the wire set supplied (P/N 45074) and connect them to the mercury relay and the vacant heating element as illustrated in the wiring diagram.

Installation Instructions For Converting an M4200 From I to 3 Phase

4. With step 3 completed, remove the existing plug and strip the black cord jacket back to expose the red wire approximately 2". Slide the 90° adaptor (P/N 44256) over the cord. Be sure that all four wires are of the same length and strip the wire insulation back 1/2". Now connect the plug (P/N 43924) to the four wires. Be sure to place the green wire into the green lug of the plug. The remaining wires have no designated location. Now mate the 90° adaptor with the plug.
5. With step 4 completed, take the new nameplate (P/N 44642 for 208V and P/N 44643 for 240V) and adhere it in place to the right of the cord over the existing nameplate.

Note: Be sure to clean the surface before mounting. Failure to clean away any grease or film will cause the nameplate to fall off or not stick at **all**.

6. A receptacle (P/N 43874) has been provided for your convenience. This should be mounted by an authorized electrician only.
7. With all steps completed, the side panel can now be put back in place. This may be done by reversing step 2 as it applies.

If additional help is required, please call Wells Manufacturing Company Customer Service at (702) 345-0444.